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COMPREHENSIVE PLAN VOLUME V
LAND DEVELOPMENT PLAN

Eastern Band of Cherokee Indians

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EASTERN BAND OF CHEROKEE INDIANS

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Introduction

Planning is the guidance and shaping of the development, growth, arrangement and change of environments with the aim of harmonizing them with the social, aesthetic, cultural, political and economic requirements of life. Planning is as old as when cities might count as their earliest functionaries Cain, whose client was God; God Himself, who oversaw the creation of numerous towns and the destruction of some unsuccessful cities; and Romulus, planner of Rome.

A planner is anyone who plans - for example, a city planner, an economic planner, a public health, transportation, or social planner. Planners today are not all planners of cities, but are planners or replanners of neighborhoods, zoning specialists, urban-renewal and housing specialists, or executors of the numerous tasks connected with spatious or environmental planning. In 1968 it was possible to list at least twenty different kinds of city planner, and the list is by no means final.

Because the scope and responsibilities of planning have grown with the complexities of urban life, it has become involved with other arts, professions, and sciences in the effort to achieve its objectives. City planning not only concerns urban communities and their relationship to the regions of which they are a part, but seeks or should seek to improve the conditions of urban and suburban life and well-being through sensibly arranging the residential, commercial, and industrial parts of areas; developing each section to standards of space consonant with health and safety; providing good housing at costs within the means of the inhabitants; supplying adequate recreational, educational, and other communal facilities; providing an efficient system of circulation and adequate utilities and public services; identifying the financial resources to fulfill these objectives; creating environments people can live and grow in decently, without unreasonable restraints on the lives they choose to lead.

In 1964, the Tribal Council of the Eastern Band of Cherokee Indians passed the following resolution which created a Planning Board:

> "There is hereby created a Planning Board to be known as the Planning Board of the Eastern Band of Cherokee Indians, which shall be composed of seven persons. The term of office of the members of said board shall be five years and staggered, when the board is first established, one member's term shall be designated to expire in one year, another to expire in two years, a third to expire in three years, a fourth to expire in four years. Thereafter all appointments shall be for five years, except that in the case of a prior vacancy an appointment shall be only for the length of the unexpired term. Each member of the Board shall hold office until his successor has been appointed and has qualified.
>
> The Council shall name one of the members of the Board to serve as Chairman of the Planning Board and the Board shall elect from its members a Vice-Chairman, a secretary and such other officers as it may desire.
>
> The Council may remove any member of the Board for cause.
>
> The members of the Planning Board shall not receive compensation for their services, but shall be entitled to compensation for expenses, including travel expenses, incurred in the discharge of their duties.

Four members of the Planning Board shall constitute a quorum for the transaction of business, notwithstanding the existence of any vacancies.

The Planning shall have the exercise, and is hereby vested with all of the powers, authorities, discretions, and duties with respect to the Eastern Band of Cherokee Indians Reservation as are granted to or imposed upon planning boards which are created by cities and towns within the State of North Carolina under the authority of Section 160-22 of the General Statutes of North Carolina.[1]

This Committee is required to meet quarterly and keep minutes of all such meetings and a report made to Council at the next meeting after the Committee has met.

This resolution recinds all previous resolutions in conflict with this one."[2] (See Appendix C for other Planning Board related resolutions).

The Planning Process

Since planning is an on-going process, requiring periodic evaluation and updating, the long-range "Planning Documents" will be accomplished in a continuous series of phases.

Nine major steps that will be taken in formulating the "Plan" are:

1. Accumulate and analyze all existing data. Analyses of these data will reveal the strengths and weaknesses and provide a basis for forming plans and development projects.

---

[1] Section 160-22 of the General Statutes of North Carolina were repealed by Chapter 160A Article 19, 1971 - 1975. (These revisions are reproduced in full text in Appendix "B").

[2] Resolution Number 810, 1964, rescinds Resolution Number 506, 1962.

2. Identify problems, deficiencies, and potentials. Critical problems and deficiencies will come to light during the analysis of the economic status of the Tribe. Their causes and effects will be discerned and, when possible, measured in quantified terms.
3. Establish goals. By formulating goals, three things will be accomplished:
   a. Intelligent planning will be possible by creating "targets" toward which efforts can be directed.
   b. It provides a means of measuring effectiveness of actions undertaken.
   c. Formulating goals lets the people of the Eastern Band of Cherokee Indians know what the Planning Program is trying to achieve.
4. Review current planning and development efforts. Because the many agencies and organizations will already have started many programs and projects significant to planning and development of the total Tribal program, recognition must be given to their contribution to achieving Tribal goals in order to avoid duplication. Moreover, the efforts of these organizations must be coordinated with other bodies.
5. Discover project opportunities. A project is a specific activity for accomplishing one or more goals. It involves particular events, persons, timing, location, and costs. Since projects are the major means for achieving goals, they are a vital element in planning.
6. Analyze individual projects. Each project under consideration must be analyzed to determine:

    a. The nature of its benefits.
    b. Which goals those benefits would serve.
    c. The length of time needed to produce those benefits.
    d. Project costs.
    e. Project's overall feasibility.

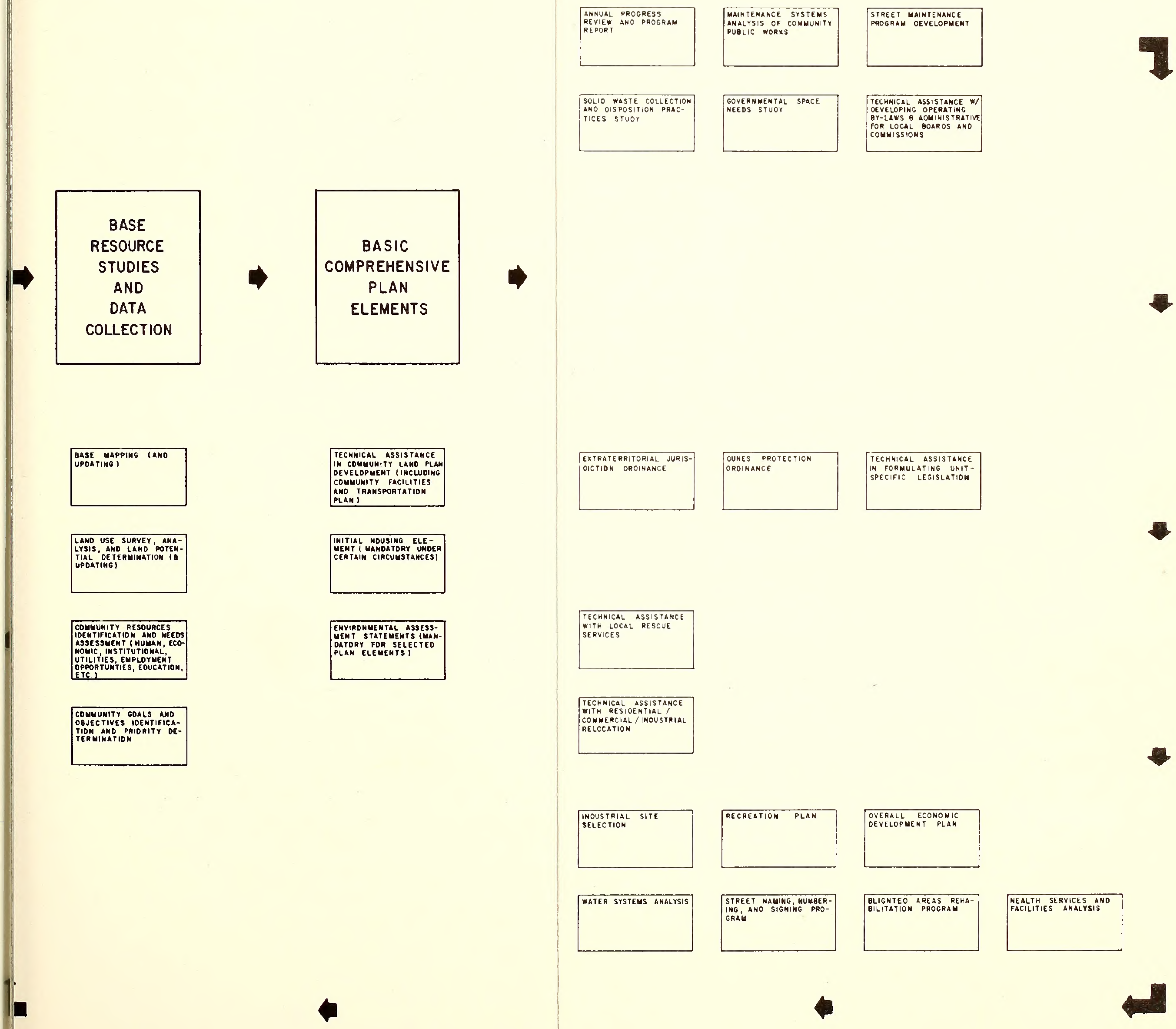
7. Formulate the "Planning Documents." This step involves deciding which particular projects are most important to the Tribe and, therefore, should be given highest priority in the Planning Documents. It will result in a ranked list of specific projects with relative priorities attached to each of them. Total costs of the highest priority projects should be consistent with the economic and other capabilities of the Tribe as supplemented by State and Federal assistance. Such a quantified priority list of projects will constitute the heart of the Tribe's "Planning Process."

8. Encourage program implementation. The best possible plan is a failure unless actions are initiated to produce the desired results. Since the planning agency lacks the authority to carry out individual projects, it must rely on stimulating others to act. In order to make the task more productive, a close relationship must be maintained with representatives of all groups during the program formation stages. The Planning Documents will be plans formulated with major input by the people it will affect, and not just a plan formulated by the designs of the planning agency staff. To monitor implementation activities, it will be necessary to provide for constant feedback from the executors of individual projects to the planning agency staff.

9. Evaluate program effectiveness. Evaluation consists of comparing the results of actions with the goals they were intended to achieve. For evaluation to be meaningful, it should be based on measurable standards, rather than general impressions. A sound method of evaluation is crucial, and will be used. As conditions will change, goals and projects must be changed accordingly.

The "Planning Process" is presented on the following page in chart form entitled "Overall Program Design."

CHART I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OVERALL PROGRAM DESIGN

NORTH CAROLINA DIVISION OF COMMUNITY SERVICES

1974 - 1975

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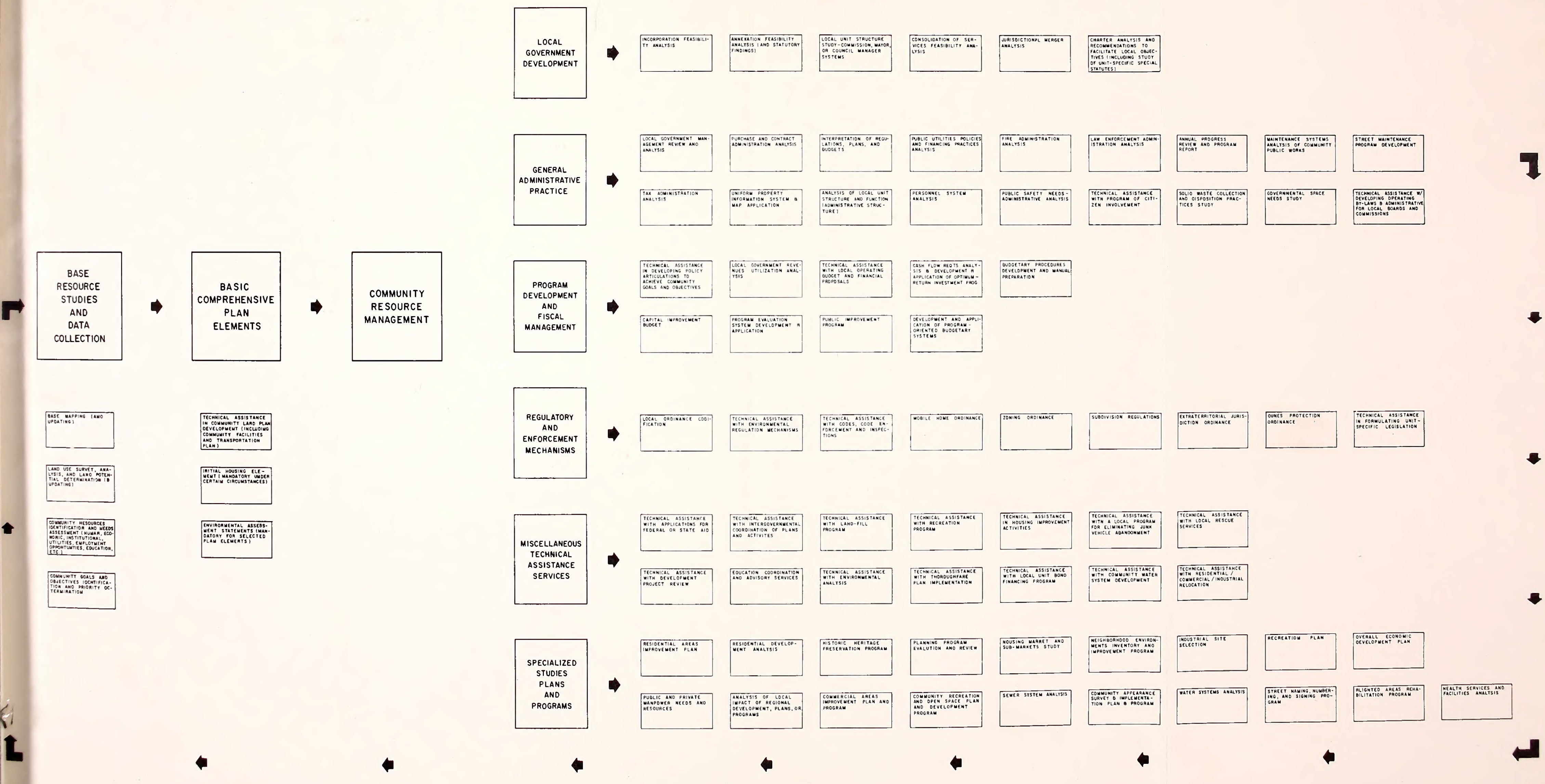
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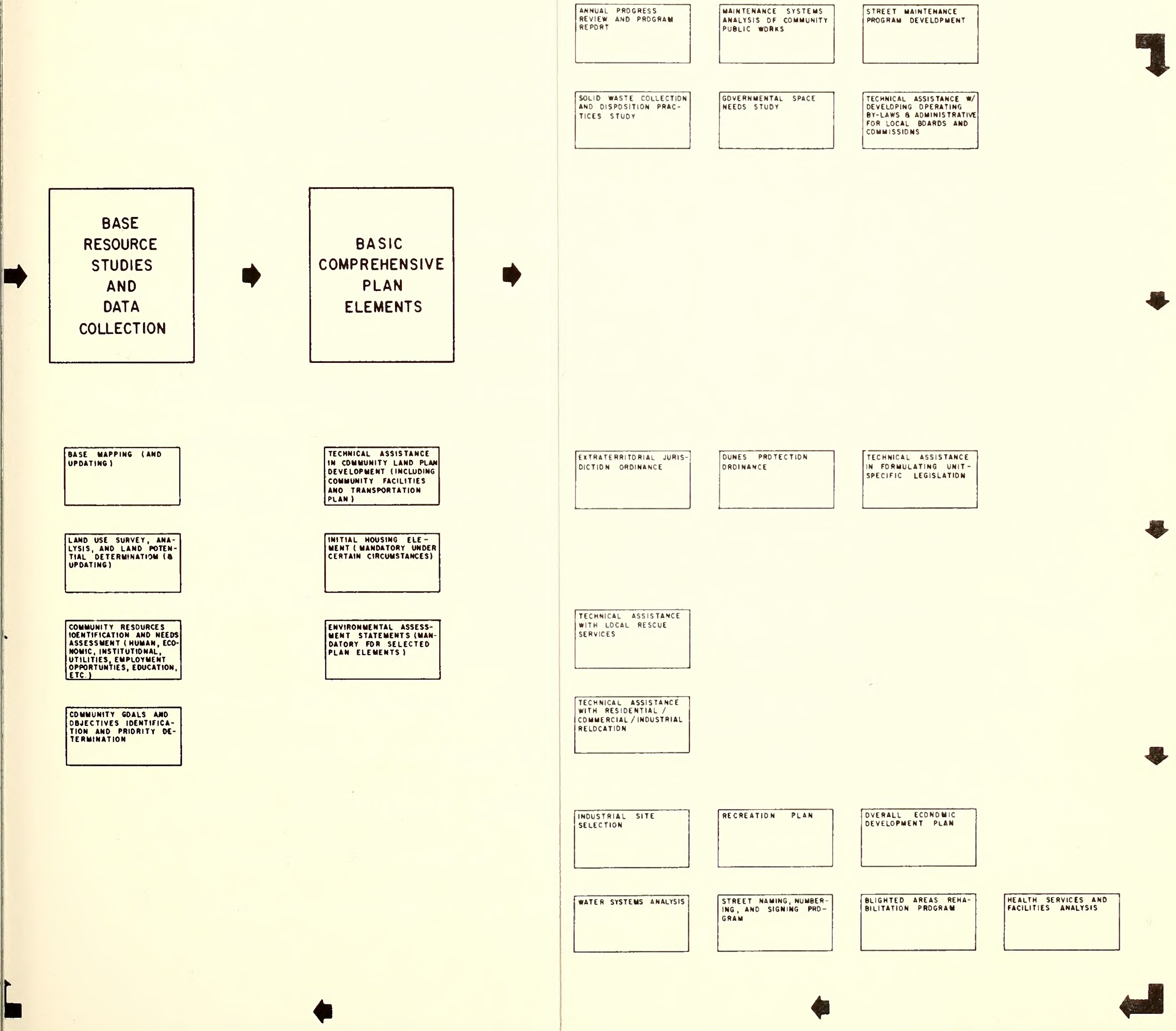
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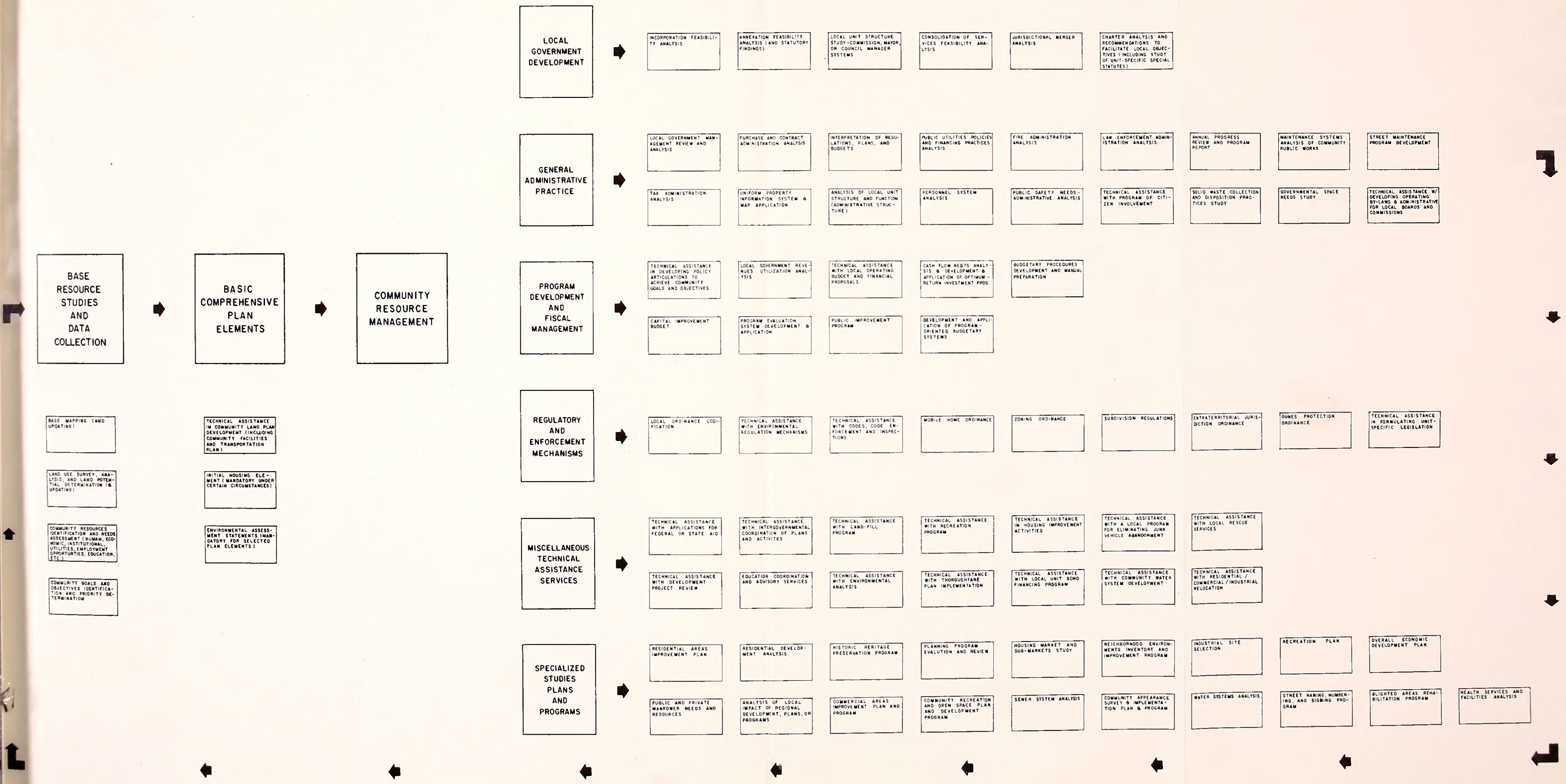

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- TECHNICAL ASSISTANCE WITH RECREATION PROGRAM
- TECHNICAL ASSISTANCE IN HOUSING IMPROVEMENT ACTIVITIES
- TECHNICAL ASSISTANCE WITH A LOCAL PROGRAM FOR ELIMINATING JUNK VEHICLE ABANDONMENT
- TECHNICAL ASSISTANCE WITH LOCAL RESCUE SERVICES
- TECHNICAL ASSISTANCE WITH DEVELOPMENT PROJECT REVIEW
- EDUCATION COORDINATION AND ADVISORY SERVICES
- TECHNICAL ASSISTANCE WITH ENVIRONMENTAL ANALYSIS
- TECHNICAL ASSISTANCE WITH THOROUGHFARE PLAN IMPLEMENTATION
- TECHNICAL ASSISTANCE WITH LOCAL UNIT BOND FINANCING PROGRAM
- TECHNICAL ASSISTANCE WITH COMMUNITY WATER SYSTEM DEVELOPMENT
- TECHNICAL ASSISTANCE WITH RESIDENTIAL / COMMERCIAL / INDUSTRIAL RELOCATION

SPECIALIZED STUDIES PLANS AND PROGRAMS →

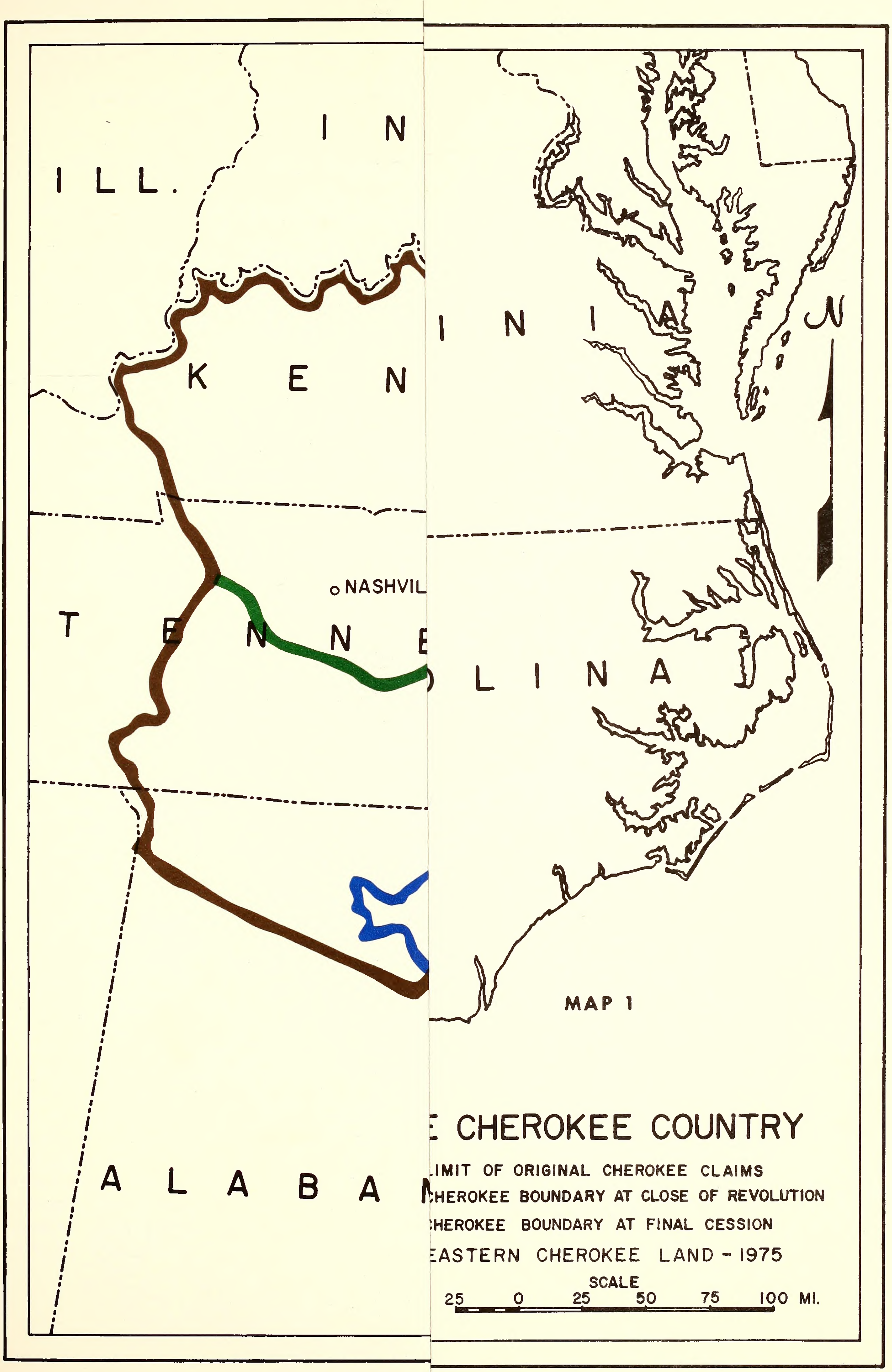
- RESIDENTIAL AREAS IMPROVEMENT PLAN
- RESIDENTIAL DEVELOPMENT ANALYSIS
- HISTORIC HERITAGE PRESERVATION PROGRAM
- PLANNING PROGRAM EVALUTION AND REVIEW
- HOUSING MARKET AND SUB-MARKETS STUDY
- NEIGHBORHOOD ENVIRONMENTS INVENTORY AND IMPROVEMENT PROGRAM
- INDUSTRIAL SITE SELECTION
- RECREATION PLAN
- OVERALL ECONOMIC DEVELOPMENT PLAN
- PUBLIC AND PRIVATE MANPOWER NEEDS AND RESOURCES
- ANALYSIS OF LOCAL IMPACT OF REGIONAL DEVELOPMENT, PLANS, OR PROGRAMS
- COMMERCIAL AREAS IMPROVEMENT PLAN AND PROGRAM
- COMMUNITY RECREATION AND OPEN SPACE PLAN AND DEVELOPMENT PROGRAM
- SEWER SYSTEM ANALYSIS
- COMMUNITY APPEARANCE SURVEY & IMPLEMENTATION PLAN & PROGRAM
- WATER SYSTEMS ANALYSIS
- STREET NAMING, NUMBERING, AND SIGNING PROGRAM
- BLIGHTED AREAS REHABILITATION PROGRAM
- HEALTH SERVICES AND FACILITIES ANALYSIS

Land Losses of the Cherokees

The Cherokees of what is now the Southeastern United States were once a mighty and powerful nation and were a Tribe of great importance in early colonial times. Much has been recorded concerning the many merciless wars between the Cherokees and the white settlers in the efforts to remove or extirpate this Tribe, yet they remain today as a fragment nestled within the protection of the Great Smoky Mountains of Western North Carolina. This isolated group refused to succumb to the persuasion and violence of the white intruder - their persistence to remain, finally being secured after total loss of all their land and then having to purchase what is now the Reservation of the Eastern Band of Cherokee Indians.

At the time when the Cherokees came into first contact with the white man (De Soto in 1540), they claimed 135,000 square miles or 86,400,000 acres of territory covering parts of eight states. They were North Carolina, South Carolina, Georgia, Alabama, Tennessee, Kentucky, Virginia, and West Virginia. By the end of the Revolution the Cherokee had lost about half of their land to the British. Between 1785 and 1835 the Cherokee lands had shrunk to a few million acres. By the treaty of New Echota in 1835, all lands east of the Mississippi were ceded to the federal government. The following map (Number 1) outlines the boundaries of the Cherokees at various periods in history and shows the:

1. Limit of original Cherokee claims.
2. Cherokee boundary at close of Revolution.
3. Cherokee boundary at final cession.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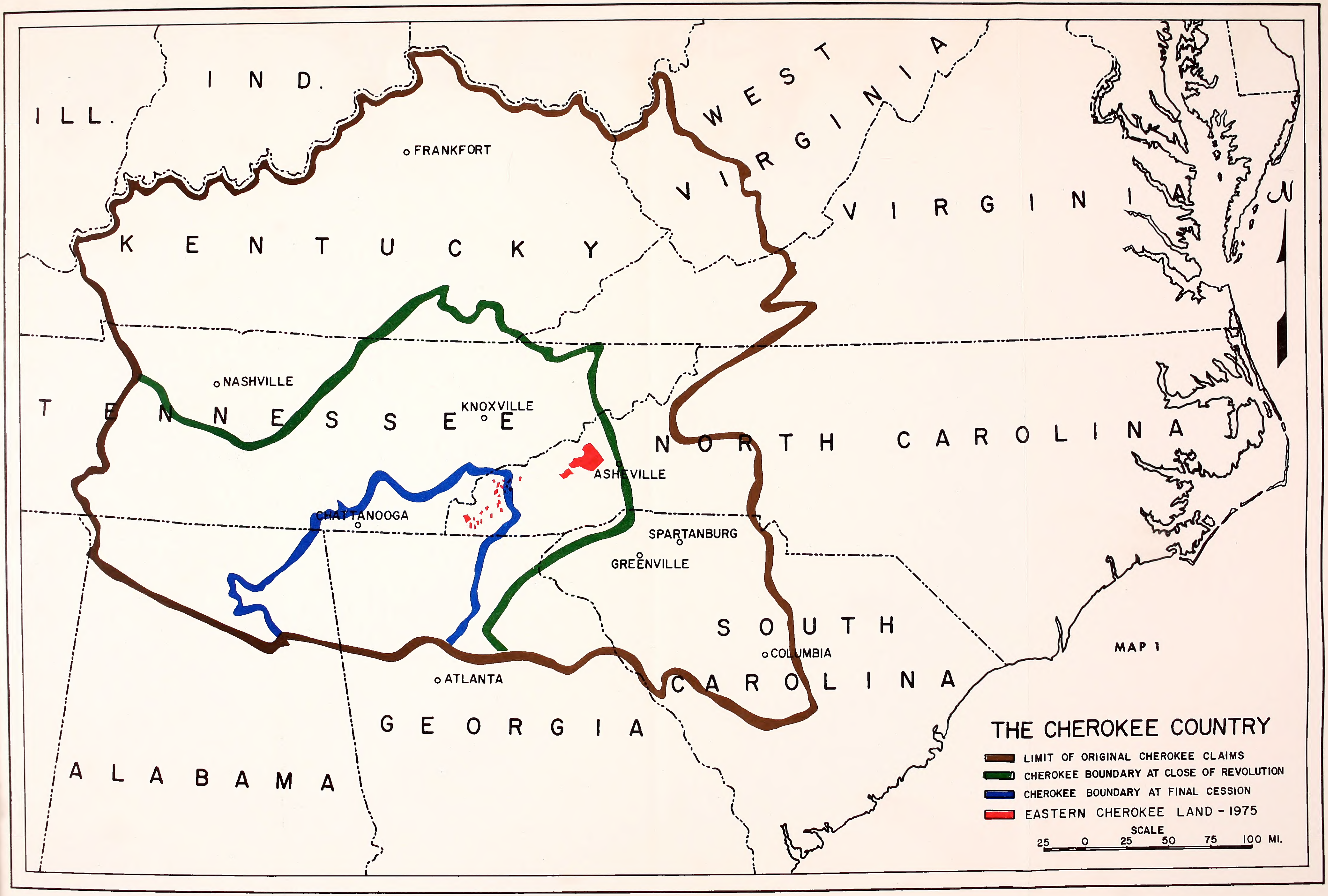
IMIT OF ORIGINAL CHEROKEE CLAIMS
HEROKEE BOUNDARY AT CLOSE OF REVOLUTION
HEROKEE BOUNDARY AT FINAL CESSION
EASTERN CHEROKEE LAND - 1975
SCALE
25 0 25 50 75 100 MI.

MAP 1

E CHEROKEE COUNTRY



MAP 1

THE CHEROKEE COUNTRY

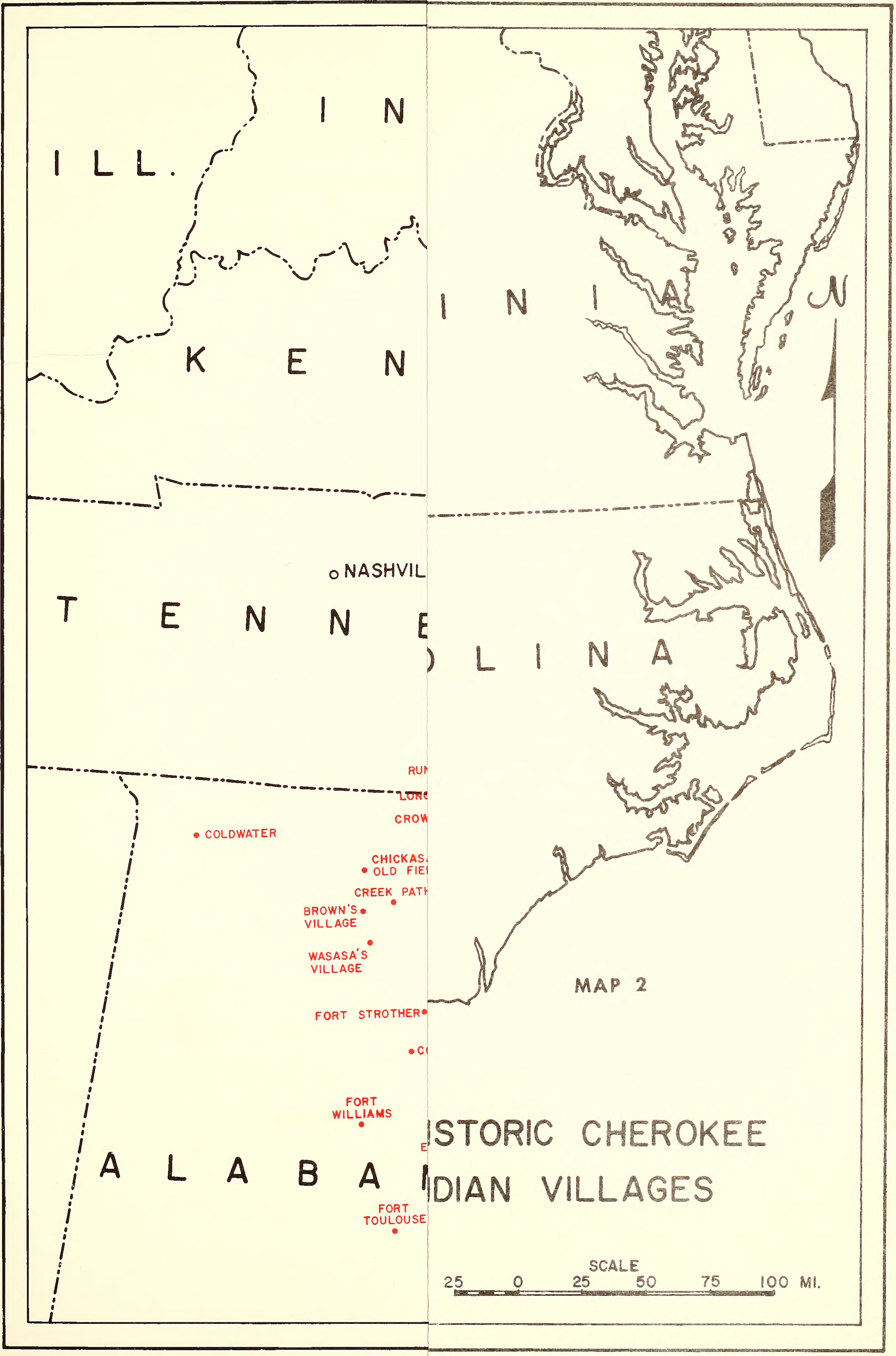
4. Eastern Cherokee Land - 1975

The next map, (Map Number 2) shows the name and location of the historic Cherokee Indian Villages of which there were 101 known to exist. They are listed in alphabetical order below:

Battle of Blue Licks
Brown's Village
Catawba Town
Chehaw
Cheowa
Cherokee
Chestua
Chickamauga
Chickasaw Old Fields
Chilhowee
Citico
Coldwater
Conasauga
Coosa
Cowee
Coweta
Coytee
Creek Path
Crow Town
Cusseta
Custawatee
Echoee
Echota (Ga.)
Echota (Tenn.)
Ellijay
Emukfaw
Equasee
Estatoee
Fighting Town
Fort Charlotte
Fort Chiswell
Fort Dobbs
Fort Loudon
Fort Ninetyoix
Fort Patrick Henry
Fort Prince George
Fort Strother
Fort Toulouse
Fort Williams
Gatoogajay
Grainerd Mission
Great Estatoee
Great Hiwassee
Great Tellico
Hickory Log
Hillabee
Hiwassee
Hopewell
Horseshoe Bend
Kanasta
Kanuga
Kituhwa
Long Island
Long Swamp
Lookout Mountain Town
Nacoochee
Nantahala
New Echota
New Keowee
Nickajack
Nottely
Noyoce
Nununyi
Oconee
Old Keowee
Pine Log
Red Clay
Running Water
Seneca
Silver Bluff
Six's Town
Soquee
Spring Place Mission
Stecoee (Ga.)
Stecoee (N.C.)
Sugar Town (Ga.)
Sugar Town (S.C.)
Talassee
Tallasee Hatchee
Tallula
Tasetsi
Tellico Blockhouse
Tessuntee
Tikwalits
Tlanusiyi
Toccoa
Togaloo
Tomasee

Toquo
Toxawaw
Tuckasegee
Tukabatchee
Turkey Town
Turnip Mountain
Tuskegee
Two Runs
Ustanali
Valley Town
Wasasa's Village
Watauga
Willstown

For the enlightenment of Eastern Cherokees, we have compiled a chronology of land losses to impress the value of the Cherokee's land of today, to lay the foundation of the need for intensive planning and to encourage against any further land cessions. As the demands on the land become more and more intensified, a land purchase program will need to be undertaken in order to accommodate the increasing growth of the population which will need acreage for housing, businesses and other economic growth facilities.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• OLD FIEI
CREEK PATH
BROWN'S •
VILLAGE
WASASA'S
VILLAGE
FORT STROTHER•
•C
FORT
WILLIAMS
E
FORT
TOULOUSE
N
MAP 2
ISTORIC CHEROKEE
DIAN VILLAGES
SCALE
25 0 25 50 75 100 MI.

Toquo
Toxawaw
Tuckasegee
Tukabatchee
Turkey Town
Turnip Mountain
Tuskegee
Two Runs
Ustanali
Valley Town
Wasasa's Village
Watauga
Willstown

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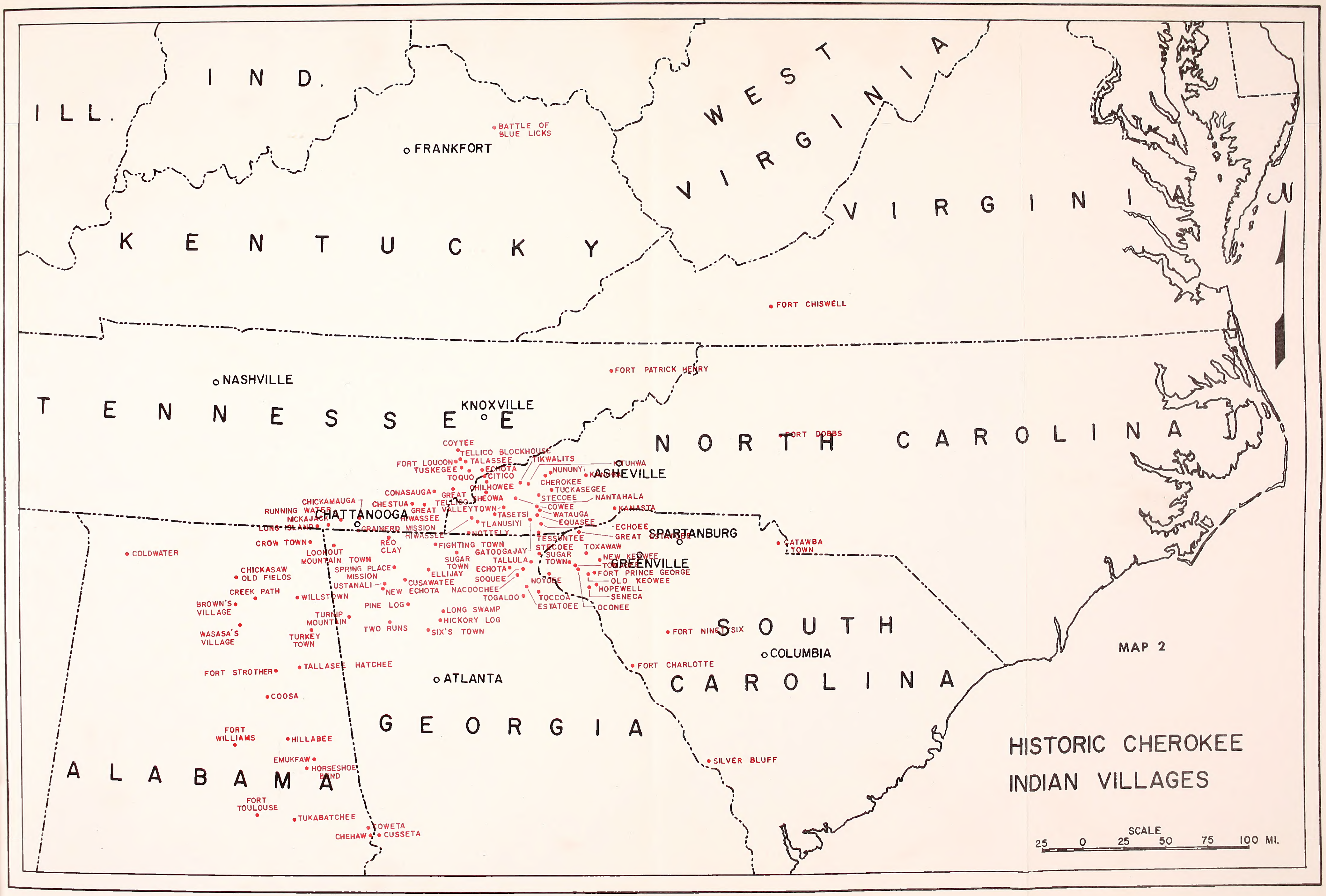


MAP 2

HISTORIC CHEROKEE
INDIAN VILLAGES

1721 In 1721, in order to systematize Indian affairs, Governor Nicholson of South Carolina invited the chiefs of the Cherokee to a conference, at which thirty-seven towns were represented. A treaty was made by which trading methods were regulated, a boundary line between their territory and the English settlements was agreed upon, and an agent was appointed to superintend their affairs. At the Governor's suggestion, one chief, called Wrosetasatow, was formally commissioned as supreme head of the Cherokee Nation, with authority to punish all offenses, including murder, and to represent all Cherokee claims to the colonial government. Thus were the Cherokee reduced from their former condition of a free people, ranging where their pleasure led, to that of dependent vassals with bounds fixed by a colonial governor. The negotiations were accompanied by a cession of land (1,678,720 acres), the first in the history of the Tribe. In little more than a century thereafter they had signed away their whole original territory.

1775 Under several leaders, as Walker, Wallen, Smith, and Boon, the tide of emigration surged across the mountains in spite of every effort to restrain it, and the period between the end of the Cherokee War and the opening of the Revolution is principally notable for a number of treaty cessions by the Indians, each in fruitless endeavor to fix a permanent barrier between themselves and the advancing wave of white settlement. Chief among these was the famous Henderson purchase in 1775, which included the whole tract between the Kentucky and Cumberland Rivers, embracing the greater part of the present state of Kentucky. By these treaties the Cherokee were shorn of practically all their ancient territorial claims north of the present Tennessee line and east of the Blue Ridge and the Savannah, including much of their best hunting range; their home settlements were, however, left still in their possession.

While these transactions were called treaties, they were really forced upon the native proprietors, who resisted each in turn and finally signed only under protest and on most solemn assurances that no further demands would be made.

1777 The opening of the Revolutionary struggle in 1776 found the Indian Tribes on the British side against the Americans. There was good reason for this. Since the fall of the French power the British government had stood to the Indians as the sole representative of authority, and the guardian and protector of their rights against constant encroachments by the American borderers. Realizing their common danger, the border states determined to strike such a concerted blow at the Cherokee as should render them passive while the struggle with England continued.

The effect upon the Cherokee of this irruption of more than six thousand enemies into their territory was well nigh paralyzing. More than fifty of their towns had been burned, their orchards cut down, their fields wasted, their cattle and horses killed or driven off, their stores of buckskin and other personal property plundered. Hundreds of their people had been killed or had died of starvation and exposure, others were prisoners in the hands of the Americans, and some had been sold into slavery. Those who had escaped were fugitives in the mountains, living upon acorns, chestnuts, and wild game, or were refugees with the British. From the Virginia line to the Chattahoochee the chain of destruction was complete. For the present at least any further resistance was hopeless, and they were compelled to sue for peace.

By a treaty concluded at DeWitts Corners in South Carolina on May 20, 1777, the first ever made with the new states, the Lower Cherokee surrendered to the conqueror all of their remaining territory in South Carolina, excepting a narrow strip along the western boundary. Just two months later, on July 22, by treaty at the Long Island, as had been arranged by Colonel William Christian in the preceding fall, the Middle and Upper ceded everything east of the Blue Ridge, together with all the disputed territory on the Watauga, Nolichucky, Upper Holston and New Rivers. By this second treaty also Captain James Robertson was appointed agent for the Cherokee, to reside at Echota, to watch their movements, recover any captured property, and prevent their correspondence with persons unfriendly to the American cause. As the Federal government was not yet in perfect operation, these treaties were negotiated by commissioners from the four states adjoining the Cherokee country, the territory thus acquired being parceled out to South Carolina, North Carolina and Tennessee. On that occasion the Tribe ceded the State of North Carolina a good slice of territory, amounting to approximately 2,824,960 acres.

1782 The Chickamauga band and those farther to the south, were still bent on war, being actively encouraged in that disposition by the British agents and refugee loyalists living among them. They continued to raid both north and south, and in September, 1782, Sevier, with 200 mounted men, again made a descent upon their towns, destroying several of their settlements about Chickamauga Creek and penetrating as far as the important town of Ustanali, on the headwaters of Coosa River, near the present Calhoun, Georgia. This also he destroyed. Every warrior found was killed. On the return the expedition halted at Echota, where new assurances were received from the friendly element. In the meantime a Georgia expedition of over 400 men, under General Pickens, had been ravaging the Cherokee towns in the same quarter, with such effect that the Cherokee were forced to purchase peace by a further surrender of territory on the head of Broad River in Georgia. This cession was concluded at a treaty of peace held with the Georgia Commissioners at Augusta in the next year, and was confirmed later by the Creeks, who claimed an interest in the same lands, but was never accepted by either as the voluntary act of their tribe as a whole. Passing over several unsatisfactory and generally abortive negotiations conducted by the various state governments in 1783-84, including the treaty of Augusta already noted, we come to the turning point in the history of the Cherokee, their first treaty with the new government of the United States for peace and boundary delimitation concluded at Hopewell in South Carolina on November 28, 1785. Nearly one thousand Cherokees attended, the commissioners for the United States being Colonel Benjamin Hawkins, of North Carolina; General Andrew Pickens, of South Carolina; Cherokee Agent Joseph Martin, of Tennessee, and Colonel Lachlan McIntosh, of Georgia. The instrument was signed by thirty-seven chiefs and principal men, representing nearly as many different towns. The negotiations occupied ten days, being complicated by a protest on the part of North Carolina and Georgia against the action of the government commissioners in confirming to the Indians some lands which had already been appropriated as bounty lands for state troops without the consent of the Cherokee. On the other hand the Cherokee complained that 3,000 white settlers were at that moment in occupancy of unceded land between the Holston and the French Broad. In spite of their protest these intruders were allowed to remain, although the territory was not acquired by treaty until some years later. As finally arranged by the treaty the Middle and Upper towns, and those in the vicinity of Coosa River remained undisturbed while the whole country east of the Blue Ridge, with the Watauga and Cumberland settlements, was given over to the whites. The general boundary followed the dividing ridge between Cumberland River and the more southern waters of the Tennessee eastward to the junction of the two forks of Holston, near the present Kingsport, Tennessee, thence southward to the Blue Ridge and southwestward to a point not far from the present Atlanta, Georgia, thence westward to the Coosa River and northwestward to a creek running into Tennessee River at the western line of Alabama, thence northward with the Tennessee River to the beginning. The lands south and west of these lines were recognized as belonging to the Creeks and Chickasaw. Hostilities were to cease and the Cherokee were taken under the protection of the United States. The proceedings ended with the distribution of a few presents.

1791 Occupancy by the whites of the reserved and guaranteed lands belonging to the Indians caused their resentment and raids along the Tennessee frontier to become common occurrence. At this time, according to the official report of President Washington, over five hundred families of intruders were settled upon lands belonging rightly to the Cherokee, in addition to those between the French Broad and the Holston. More than a year before the Secretary of War had stated that "the disgraceful violation of the Treaty of Hopewell with the Cherokee requires the serious consideration of Congress. If so direct and manifest contempt of the authority of the United States be suffered with impunity, it will be in vain to attempt to extend the arm of government to the frontiers. The Indian Tribes can have no faith in such imbicile promises, and the lawless whites will ridicule a government which shall on paper only make Indian treaties and regulate Indian boundaries." To prevent any increase of the dissatisfaction, the general government issued a proclamation forbidding any further encroachment upon the Indian lands on the Tennessee River; notwithstanding which, early in 1791, a party of men descended the river in boats, and landing on an island at the Muscle Shoals near the present Tuscumbia, Alabama, erected a blockhouse and other defensive works. Immediately afterward the Cherokee Chief, Glass, with about sixty warriors appeared and quietly informed them that if they did not at once withdraw he would kill them. After some parley the intruders retired to their boats when the Indians set fire to the buildings and reduced them to ashes.

To forestall more serious difficulty it was necessary to negotiate a new treaty with a view to purchasing the disputed territory. Accordingly, through the efforts of Governor Blount, a convention was held with the principal men of the Cherokee at White's Fort now Knoxville, Tennessee, in the summer of 1791. With much difficulty the Cherokee were finally brought to consent to a cession of a triangular section in Tennessee and North Carolina extending from Clinch River almost to the Blue Ridge, and including nearly the whole of the French Broad and the lower Holston with the sites of the present Knoxville, Greenville, and Asheville. The whole of this area, with a considerable territory adjacent, was already fully occupied by the whites. Permission was also given for a road from the eastern settlements to those on the Cumberland with the free navigation of Tennessee River. Prisoners on both sides were to be restored and perpetual peace was guaranteed. In consideration of the lands surrendered the Cherokee were to receive an annuity of one thousand dollars with some extra goods and some assistance on the road to civilization. A treaty was signed by forty-one principal men of the Tribe and was concluded July 2, 1791. It is officially described as being held "on the bank of the Holston, near the mouth of the French Broad," and is commonly spoken of as the "Treaty of Holston."

1798 In consequence of urgent representations from the people of Tennessee, Congress took steps in 1797 for procuring a new treaty with the Cherokee by which the ejected settlers might be reinstated and the boundaries of the new state so extended as to bring about closer communication between the eastern settlements and those on the Cumberland. The Revolutionary warfare had forced the Cherokee west and south, and their capital and central gathering place was now Ustanali Town near the present Calhoun, Georgia, while Echota, their ancient capital and beloved peace town, was almost on the edge of the white settlements. The commissioners wished to have the proceedings conducted at Echota, while the Cherokee favored Ustanali. After some debate a choice was made of a convenient place near Tellico blockhouse, where the conference opened in July, but was brought to an abrupt close by the peremptory refusal of the Cherokee to sell any lands or to permit the return of the ejected settlers.

The rest of the summer was spent in negotiation along the lines already proposed, and on October 2, 1798, a treaty commonly known as the "First Treaty of Tellico" was concluded at the same place and was signed by thirty-nine chiefs on behalf of the Cherokee. By this treaty the Indians ceded a tract between Clinch River and the Cumberland Ridge, another along the northern bank of Little Tennessee extending up to Chilhowee Mountain, and a third in North Carolina on the heads of French Broad and Pigeon Rivers and including the sites of the present Waynesville and Hendersonville. These cessions included most or all of the lands from which settlers had been ejected. Permission was also given for laying out the "Cumberland Road," to connect the east Tennessee settlements with those about Nashville. In consideration of the lands and rights surrendered, the United States agreed to deliver to the Cherokee five thousand dollars in goods and to "continue the guarantee of the remainder of their country forever."

The close of the century found them still a compact people (the westward movement having hardly yet begun) numbering probably about 20,000 souls. After repeated cessions of large tracts of land, to some of which they had but doubtful claim, they remained in recognized possession of nearly 43,000 square miles of territory, a country about equal in extent to Ohio, Virginia, or Tennessee. Of this territory about one-half was within the limits of Tennessee, the remainder being almost equally divided between Georgia and Alabama, with a small area in the extreme southwestern corner of North Carolina. The old Lower Towns on Savannah River had been broken up for twenty years, and the whites had so far encroached upon the Upper Towns that the capital and council fire of the nations had been removed from the ancient peace town of Echota to Ustanali, in Georgia. The towns on Coosa River and in Alabama were almost all of recent establishment, peopled by refugees from the east and north. The Middle Towns, in North Carolina, were still surrounded by Indian country.

1804 Notwithstanding the promise to the Cherokee in the Treaty of 1798 that the government would "continue the guarantee of the remainder of their country forever," measures were begun almost immediately to procure another large cession of land and road privileges. In spite of the strenuous objection of the Cherokee, who sent a delegation of prominent chiefs to Washington to protest against any further sales, such pressure was brought to bear, chiefly through efforts of the agent, Colonel Meigs, that the object of the government was accomplished; and in 1804 and 1805 three treaties were negotiated at Tellico agency by which the Cherokee were shorn of more than eight thousand square miles of their remaining territory.

By the first of these treaties - October 24, 1804 - a purchase was made of a small tract in northeastern Georgia, known as the "Wafford Settlement," upon which a party led by Colonel Wafford had located some years before under the impression that it was outside the boundary established by the Hopewell Treaty.

In compensation the Cherokee were to receive an immediate payment of five thousand dollars in goods or cash with an additional annuity of one thousand dollars. By the other treaties - October 25 and 27, 1805 - a large tract was obtained in central Tennessee and Kentucky, extending between the Cumberland Range and the western line of the Hopewell Treaty, and from Cumberland River southwest to Duck River. One section was also secured at Southwest Point (now Kingston, Tennessee) with the design of establishing there the state capital, which, however, was located at Nashville instead seven years later. Permission was also obtained for two mail roads through the Cherokee country into Georgia and Alabama. In consideration of the cessions by the two treaties the United States agreed to pay fifteen thousand six hundred dollars in working implements, goods, or cash with an additional annuity of three thousand dollars. To secure the consent of some of the leading chiefs, the treaty commissioners resorted to the disgraceful precedent of secret articles by which several valuable small tracts were reserved for Doublehead and Tollunteeshee, the agreement being recorded as part of the treaty but not embodied in the copy sent to the Senate for confirmation. In consequence of continued abuse of his official position for selfish ends Doublehead was soon afterward killed in accordance with a decree of the chiefs of the Nation - Major Ridge being selected as executioner.

1806 Almost within two months of the last treaties another one was concluded at Washington on January 7, 1806, by which the Cherokee ceded their claim to a large tract between Duck River and the Tennessee, embracing nearly seven thousand square miles in Tennessee and Alabama together with the Long Island (Great Island) in Holston River, which up to this time they had claimed as theirs. They were promised in compensation ten thousand dollars in five cash installments, a grist mill and cotton gin, and a life annuity of one hundred dollars for Black Fox, the aged chief of the nation. The signers of the instrument, including Doublehead and Tollunteeskee, were accompanied to Washington by the same commissioners who had procured the previous treaty. In consequence of some misunderstanding, the boundaries of the ceded tract were still further extended in a supplementary treaty concluded at the Chickasaw Old Fields on the Tennessee on September 11, 1807. As the country between Duck River and the Tennessee was claimed also by the Chickasaw their title was extinquished by separate treaties. The ostensible compensation for this last Cherokee cession, as shown by the treaty, was two thousand dollars; but it was secretly agreed by Agent Meigs that what he calls "silent consideration" of one thousand dollars and some rifles should be given to the chiefs who signed it.

1816 In the spring of 1816 a delegation of seven principal men accompanied by Agent Meigs, visited Washington and the result was the negotiation of two treaties at that place on the same date, March 26, 1816. By the first of these the Cherokee ceded for five thousand dollars their last remaining territory in South Carolina a small strip in the extreme northwestern corner adjoining Chattooga River. By the second treaty a boundary was established between the lands claimed by the Cherokee and Creeks in northern Alabama. This action was made necessary in order to determine the boundaries of the great tract which the Creeks had been compelled to surrender in punishment for their late uprising. The line was run from a point on Little Bear Creek in northwestern Alabama direct to the Ten Islands of the Coosa at old Fort Strother, southeast of the present Asheville. General Jackson protested strongly against this line on the ground that all the territory south of Tennessee River and west of the Coosa belonged to the Creeks and was a part of their cession. The Chickasaw also protested against considering this tract as Cherokee territory. The treaty also granted free and unrestricted road privileges throughout the Cherokee country, this concession being the result of years of persistent effort on the part of the government; and an appropriation of twenty-five thousand five hundred dollars was made for damages sustained by the Cherokee from the depredations of the troops passing through their country during the Creek War.

At the last treaty the Cherokee had resisted every effort to induce them to cede more land on either side of the Tennessee, the government being especially desirous to extinquish their claim north of that river within the limits of the State of Tennessee. Failing in this, pressure was at once begun to bring about a cession in Alabama with the result that on September 14 of the same year a treaty was concluded at the Chickasaw Council-House and afterward ratified in general council at Turkeytown on the Coosa by which the Cherokee ceded all their claims in that state south of Tennessee River and west of an irregular line running from Chickasaw Island in that stream, below the entrance of Flint River, to the junction of Wills Creek with the Coosa at the present Gadsden. For this cession, embracing an area of nearly three thousand five hundred square miles, they were to receive sixty thousand dollars in ten annual payments, together with five thousand dollars for the improvements abandoned.

1817 In the summer of 1808, a Cherokee delegation being about to visit Washington, their agent Colonel Meigs, was instructed by the Secretary of War to use every effort to obtain their consent to an exchange of their lands for a tract beyond the Mississippi. By this time the government's civilizing policy, as carried out in the annual distribution of farming tools, spinning wheels, and looms had wrought a considerable difference of habit and sentiment between the northern and southern Cherokee. Those on the Little Tennessee and Hiwassee were generally farmers and stock raisers, producing also a limited quantity of cotton which the women wove into cloth. Those farther down in Georgia and Alabama, the old hostile element, still preferred the hunting life and rejected all effort at innovation, although the game had now become so scarce that it was evident a change must soon come. Jealousies had arisen in consequence, and the delegates representing the progressive element now proposed to the government that a line be run through the nation to separate the two parties, allowing those on the north to divide their lands in severalty and become citizens of the United States, while those on the south might continue to be hunters as long as the game should last. Taking advantage of this condition of affairs, the government authorities instructed the agent to submit to the conservatives a proposition for a cession of their share of the tribal territory in return for a tract west of the Mississippi of sufficient area to enable them to continue the hunting life. The plan was approved by President Jefferson, and a sum was appropriated to pay the expenses of a delegation to visit and inspect the lands on Arkansas and White Rivers with a view to removal. The visit was made in the summer of 1809, and the delegates brought back such favorable report that a large number of Cherokee signified their intention to remove at once. As no funds were then available for their removal, the matter was held in abeyance for several years during which period families and individuals removed to the western country at their own expense until, before the year 1817, they numbered in all two or three thousand souls. They became known as the Arkansas, or Western Cherokee.

The emigrants soon became involved in difficulties with the native tribes, the Osage claiming all the lands north of Arkansas River, while the Quapaw claimed those on the south. Upon complaining to the government the emigrant Cherokee were told that they had originally been permitted to remove only on condition of a cession of a portion of their eastern territory and that nothing could be done to protect them in their new western home until such cession had been carried out. The body of the Cherokee Nation, however, was strongly opposed to any such sale and proposed that the emigrants should be compelled to return. After protracted negotiation a treaty was concluded at the Cherokee agency (now Calhoun, Tennessee) on July 8, 1817, by which the Cherokee Nation ceded two considerable tracts - the first in Georgia, lying east of the Chattahoochee, and the other in Tennessee, between Waldens Ridge and the Little Sequatchee - as an equivalent for a tract to be assigned to those who had already removed or intended to remove to Arkansas. Two smaller tracts on the north bank of the Tennessee in the neighborhood of the Muscle Shoals were also ceded. In return for these cessions the emigrant Cherokee were to receive a tract within the present limits of the State of Arkansas bounded on the north and south by White River and Arkansas River respectively, on the east by a line running between those streams approximately from the present Batesville to Lewisburg, and on the west by a line to be determined later. As afterward established, this western line ran from the junction of the Little North Fork with the White River to just beyond the point where the present western Arkansas boundary strikes Arkansas River. Provision was made for taking the census of the whole Cherokee Nation east and west in order to apportion annuities and other payments properly in the future, and the two bands were still to be considered as forming one people. The United

States agreed to pay for any substantial improvements abandoned by those removing from the ceded lands, and each emigrant warrior who left no such valuable property behind was to be given as full compensation for his abandoned field and cabin a rifle and ammunition, a blanket, and a kettle or a beaver trap. The government further agreed to furnish boats and provisions for the journey. Provision was also made that individuals residing upon the ceded lands might retain allotments and become citizens, if they so elected; the amount of the allotment to be deducted from the total cession.

The commissioners for the treaty were General Andrew Jackson, General David Meriwether, and Governor Joseph McMinn of Tennessee. On behalf of the Cherokee it was signed by thirty-one principal men of the eastern Nation and fifteen of the western band, who signed by proxy.

The majority of the Cherokee were bitterly opposed to any cession or removal project, and before the treaty had been concluded a memorial signed by sixty-seven chiefs and headmen of the Nation was presented to the commissioners which stated that the delegates who had first broached the subject in Washington some years before had acted without any authority from the Nation. They declared that the great body of the Cherokee desired to remain in the land of their birth where they were rapidly advancing in civilization, instead of being compelled to revert to their original savage conditions and surroundings. They therefore prayed that the matter might not be pressed further, but that they might be allowed to remain in peaceable possession of the land of their fathers. No attention was paid to the memorial, and the treaty was carried through and ratified. Without waiting for the ratification, the authorities at once took steps for the removal of those who desired to go to the west.

Two months after the signing of the treaty of July 8, 1817, and three months before its ratification, a council of the Nation sent a delegation to Washington to recount in detail the improper methods and influences which had been used to consumate it, and to ask that it be set aside and another agreement substituted. The mission was without result.

1819 The government, through Governor McMinn, was bringing strong pressure to bear upon the eastern Cherokee to compel their removal to the west. At a council convened by him in November, 1818, the Governor represented to the chiefs that it was no longer possible to protect them from the encroachments of the surrounding white population; that however the government might wish to help them, their lands would be taken, their stock stolen, their women corrupted, and their men made drunkards unless they removed to the western paradise. He ended by proposing to pay them one hundred thousand dollars for their whole territory, with the expense of removal, if they would go at once Upon their prompt and indignant refusal he offered to double the amount but with as little success.

Every point of the negogiation having failed, another course was adopted, and a delegation was selected to visit Washington under the conduct of Agent Meigs, Here the effort was renewed until, wearied and discouraged at the persistent importunity, the chiefs consented to a large cession, which was represented as necessary in order to compensate in area for the tract assigned to the emigrant Cherokee in Arkansas in accordance with the previous treaty. This estimate was based on the figures given by Governor McMinn, who reported 5,291 Cherokee enrolled as emigrants, while the eastern Cherokee claimed that not more than 3,500 had removed and that those remaining numbered 12,544 or more than three-fourths of the whole nation. The Governor, however, chose to consider one-half of the nation as in favor of removal and one-third as having already removed.

The treaty, concluded at Washington on February 27, 1819, recites that the greater part of the Cherokee Nation, having expressed an earnest desire to remain in the east, and being anxious to begin the necessary measures for the civilization and preservation of their nation, and to settle the differences arising out of the treaty of 1817, have offered to cede to the United States a tract of country "at least as extensive" as that to which the government is entitled under the late treaty. The cession embraces (1) a tract in Alabama and Tennessee, between the Tennessee and Flint Rivers; (2) a tract in Tennessee, between Tennessee River and Waldens Ridge; (3) a large irregular tract in Tennessee, North Carolina and Georgia, embracing in Tennessee nearly all the remaining Cherokee lands north of Hiwassee River, and in North Carolina and Georgia nearly everything remaining to them east of the Nantahala Mountains and the upper western branch of the Chattahoochee; (4) six small pieces reserved by previous treaties. The entire cession aggregated nearly six thousand square miles, or more than one-fourth of all then held by the nation. Individual reservations of one mile square each within the ceded area were allowed to a number of families which decided to remain among the whites and become citizens rather than abandon their homes. Payment was to be made for all substantial improvements abandoned, one-third of all tribal annuities were hereafter to be paid to the western band, and the treaty was declared to be a final adjustment of all claims and differences arising from the treaty of 1817.

1834 In the spring of 1834 the Cherokee submitted a memorial which, after asserting that they would never voluntarily consent to abandon their homes, proposed to satisfy Georgia by ceding to her a portion of their territory, they to be protected in possession of the remainder until the end of a definite period to be fixed by the United States, at the expiration of which, after disposing of their surplus lands, they should become citizens of the various states within which they resided. They were told that their difficulties could be remedied only by their removal to the west of the Mississippi. In the meantime a removal treaty was being negotiated with a self-styled committe of some fifteen or twenty Cherokee called together at the agency. It was carried through in spite of the protest of John Ross and the Cherokee Nation, as embodied in a paper said to contain the signatures of 13,000 Cherokee, but failed of ratification.

1835 The Cherokee were now nearly worn out by constant battle against a fate from which they could see no escape. In February, 1835, two rival delegations arrived in Washington. One, the national party, headed by John Ross, came prepared still to fight to the end for home and national existence. The other, headed by Major John Ridge, a prominent subchief, despairing of further successful resistance, was prepared to negotiate for removal. Reverend J. F. Schermerhorn was appointed commissioner to arrange with the Ridge party to be confirmed later by the Cherokee people in general council. On this basis a treaty was negotiated with the Ridge party by which the Cherokee were to cede their whole eastern territory and remove to the west in consideration of the sum of $3,250,000 with some additional acreage in the west and a small sum for depredations committed upon them by the whites. Finding that these negotiations were proceeding, the Ross party filed a counter proposition for $20,000,000 which was rejected by the Senate as excessive. The Schermerhorn compact with the Ridge party, with the consideration changed to $4,500,000 was thereupon completed and signed on March 14, 1835, but with the express stipulation that it should receive the approval of the Cherokee nation in full council assembled before being considered of any binding force. This much accomplished Mr. Schermerhorn departed for the Cherokee country, armed with an address from President Jackson in which the great benefits of removal were set forth to the Cherokee.

In October, 1835, the Ridge Treaty was rejected by the Cherokee Nation in full council at Red Clay, even its supporters, Ridge himself and Elias Boudinot, going over to the majority, most unexpectedly to Schermerhorn, who reports the result piously adding, "but the Lord is able to overrule all things for good." During the session of this council notice was served on the Cherokee to meet commissioners at New Echota in December following for the purpose of negotiating a treaty. The notice was also printed in the Cherokee language and circulated throughout the Nation, with a statement that those who failed to attend would be counted as assenting to any treaty that might be made.

The council had authorized the regular delegation, headed by John Ross, to conclude a treaty either there or at Washington, but finding that Schermerhorn had no authority to treat on any other basis than the one rejected by the Nation, the delegates proceeded to Washington. Before their departure John Ross, who had removed to Tennessee to escape persecution in his own state, was arrested at his home by the Georgia guard, all his private papers and the proceedings of the council being taken at the same time, and conveyed across the line into Georgia where he was held for some time without charge against him and at last released without apology or explanation. The poet, John Howard Payne, who was then stopping with Ross, engaged in the work of collecting historical and ethnologic material relating to the Cherokee was seized at the same time with all his letters and scientific manuscripts. The national paper, The Cherokee Phoenix had been suppressed and its office plant seized by the same guard a few days before. Thus in their greatest need the Cherokee were deprived of the help and counsel of their teachers, their national press and their chief.

Although for two months threats and inducements had been held out to secure a full attendance at the December conference at New Echota, there were present when the proceedings opened, according to the report of Schermerhorn himself, only from three hundred to five hundred men, women, and children out of a population of over 17,000. Notwithstanding the paucity of attendance and the absence of the principal officers of the Nation, a committee was appointed to arrange the details of a treaty, which was finally drawn up and signed on December 29, 1835.

Briefly stated, by this Treaty of New Echota, Georgia, the Cherokee Nation ceded to the United States its whole remaining territory east of the Mississippi for the sum of five million dollars and a common joint interest in the territory already occupied by the western Cherokee, in what is now Indian Territory with an additional smaller tract adjoining on the northeast in what is now Kansas. Improvements were to be paid for, and the Indians were to be removed at the expense of the United States and subsisted at the expense of the government for one year after their arrival in the new country. The removal was to take place within two years from the ratification of the treaty.

On the strong representations of the Cherokee signers, who would probably not have signed otherwise even then, it was agreed that a limited number of Cherokee who should desire to remain behind in North Carolina, Tennessee, and Alabama and become citizens having first been adjudged "qualified or calculated to become useful citizens," might so remain together with a few holding individual reservations under former treaties. This provision was allowed by the commissioners but was afterward struck out on the announcement by President Jackson of his determination "not to allow any preemptions or reservations, his desire being that the whole Cherokee people should remove together."

The New Echota Treaty was signed by (Governor) William Carroll of Tennessee and (Reverend) J. F. Schermerhorn as commissioners - the former, however, having been unable to attend by reason of illness - and by twenty Cherokee, among whom the most prominent were Major Ridge and Elias Boudinot, former editor of the Phoenix. Neither John Ross nor any one of the officers of the Cherokee Nation was present or represented. After some changes by the Senate, it was ratified May 23, 1836.

Despite the efforts of Ross and the national delegates, who presented protests with signatures representing nearly 16,000 Cherokee, the treaty had been ratified by a majority of one vote over the necessary number and preliminary steps were at once taken to carry it into execution. Councils were held in opposition all over the Cherokee Nation and resolutions denouncing the methods used and declaring the treaty absolutely null and void were drawn up and submitted to General Wool in command of the troops in the Cherokee country by whom they were forwarded to Washington. The President in reply expressed his surprise that an officer of the army should have received or transmitted a paper so disrespectful to the Executive, the Senate, and the American people; declared his settled determination that the treaty should be carried out without modification and with all consistent dispatch and directed that after a copy of the letter had been delivered to Ross, no further communication by mouth or writing, should be held with him concerning the treaty. It was further directed that no council should be permitted to assemble to discuss the treaty. Ross had already been informed that the President had ceased to recognize any existing government among the eastern Cherokee and that any further effort by him to prevent the consumation of the treaty would be suppressed.

General Wool, who had been placed in command of the troops concentrated in the Cherokee country to prevent opposition to the enforcement of the treaty, reported on February 18, 1837, that he had called them together and made them an address, but "it is, however, vain to talk to a people almost universally opposed to the treaty and who maintain that they never made such a treaty. So determined are they in their opposition that not one of all those who were present and voted at the council held but a day or two since, however poor or destitute, would receive either rations or clothing from the United States lest they might compromise themselves in regard to the treaty. These same people as well as those in the mountains of North Carolina during the summer past, preferred living upon roots and sap of trees rather than receive provisions from the United States, and thousands as I have been informed, had no other food for weeks. Many have said they will die before they will leave the country."

The Removal followed in 1838-1839 and was known as the "Trail of Tears."

The Eastern Band

It remains to speak of the Eastern Band of Cherokee - the remnant which still clings to the woods and waters of the old home country. As has been said, a considerable number had eluded the troops in the general round-up of 1838 and had fled to the fastness of the high mountains. Here they were joined by others who had managed to break through the guard at Calhoun and other collecting stations, until the whole number of fugitives in hiding amounted to a thousand or more, principally of the mountain Cherokee of North Carolina, the purest-blooded and most conservative of the Nation. About one-half the refuge warriors had put themselves under command of a noted leader named U'tsala, "Lichen," who made his headquarters amid the lofty peaks at the head of Oconaluftee, from which secure hiding place, although reduced to extremity of suffering from starvation and exposure, they defiled every effort to effect their capture.

The work of running down these fugitives proved to be so difficult an undertaking and so well-nigh barren of result that when Charley and his sons made their bold stroke for freedom General Scott eagerly seized the incident as an opportunity for compromise. To this end he engaged the services of William H. Thomas, a trader who for more than twenty years had been closely identified with the mountain Cherokee and possessed their full confidence and authorized him to submit to U'tsala a proposition that if the latter would seize Charley and the others who had been concerned in the attack upon the soldiers and surrender them for punishment, the pursuit would be called off and the fugitives allowed to stay unmolested until an effort could be made to secure permission from the general government for them to remain.

Thomas accepted the commission, and taking with him one or two Indians made his way over secret paths to U'tsala's hiding place. He presented Scott's proposition and represented to the chief that by aiding in bringing Charley's party to punishment according to the rules of war he could secure respite for his sorely pressed followers with the ultimate hope that they might be allowed to remain in their own country, whereas if he rejected the offer the whole force of the seven thousand troops which had now completed the work of gathering up and deporting the rest of the Tribe would be set loose upon his own small band until the last refugee had been either taken or killed

U'tsala turned the proposition in his mind long and seriously. His heart was bitter, for his wife and son had starved to death on the mountain side, but he thought of the thousands who were already on their long march into exile and then he looked round upon his little band of followers. If only they might stay, even though a few must be sacrificed, it was better than that all should die - for they had sworn never to leave their country. He consented and Thomas returned to report to General Scott.

Now occurred a remarkable incident which shows the character of Thomas and the masterly influence which he already had over the Indias although as yet he was hardly more than thirty years old. It was known that Charley and his party were in hiding in a cave of the Great Smokies, at the head of Deep Creek, but it was not thought likely that he could be taken without bloodshed and a further delay which might prejudice the whole undertaking. Thomas determined to go to him and try to persuade him to come in and surrender. Declining Scott's offer of an escort, he went alone to the cave, and getting between the Indians and their guns as they were sitting around the fire near the entrance, he walked up to Charley and announced his message. The old man listened in silence and then said simply, "I will come in. I don't want to be hunted down by my own people." They came in voluntarily and were shot, as has been already narrated, one only, a mere boy, being spared on account of his youth.

A respite having thus been obtained for the fugitives, Thomas next went to Washington to endeavor to make some arrangement for their permanent settlement. Under the Treaty of New Echota, in 1835, the Cherokee were entitled, besides the lump sum of five million dollars for the lands ceded, to an additional compensation for the improvements which they were forced to abandon and for spoliations by white citizens, together with a per capita allowance to cover the cost of removal and subsistence for one year in the new country. The twelfth article had also provided that such Indians as chose to remain in the east and become citizens there might do so under certain conditions, each head of a family thus remaining to be confirmed in a preemption right to 160 acres. In consequence of the settled purpose of President Jackson to deport every Indian, this permission was canceled and supplementary articles substituted by which some additional compensation was allowed in lieu of the promised preemptions and all individual reservations granted under previous treaties. Every Cherokee was thus made a landless alien in his original country.

The last party of emigrant Cherokee had started for the west in December, 1838. Nine months afterwards the refugees still scattered about in the mountains of North Carolina and Tennessee were reporte to number 1,046. By persistent effort at Washington from 1836 to 1842, including one continuous stay of three years at the capital city, Thomas finally obtained governmental permission for these to remain and their share of the monies due for improvements and reservations confiscated was placed at his disposal, as their agent and trustee, for the purpose of buying lands upon which they could be permanently settled. Under this authority he bought for them, at various times up to the year 1861, a number of contiguous tracts of land upon Oconaluftee River and Soco Creek, within the present Swain and Jackson Counties of North Carolina together with several detached tracts in the more western counties of the same state. The main body upon the waters of the Oconaluftee, which was chiefly within the limits of the cession of 1819, came afterward to be known as the Qualla Boundary or Qualla Reservation taking the name from Thomas' principal trading store and agency headquarters. The detach tracts were within the final cession of 1835, but all alike were bought by Thomas from white owners. As North Carolina refused to recognize Indians as landowners within the state, and persisted in this refusal until 1866, Thomas, as their authorized agent under the government, held the deeds in his own name. Before it was legally possible under the state laws to transfer the title to the Indians, his own affairs had become involved and his health impaired by age and the hardships of military service so that his mind gave way, thus leaving the whole question of the Indian title a subject of litigation until its adjudication by the United States in 1875, supplemented by further decisions in 1894.

To Colonel William Holland Thomas the East Cherokee of today owe their existence as a people, and for half a century he was as intimately connected with their history as was John Ross with that of the main Cherokee Nation. In his capacity as agent for the Eastern Cherokee he laid off the lands purchased for them into five districts or "towns," which he named Birdtown, Painttown, Wolftown, Yellow Hill and Big Cove, the first three being those of Cherokee clans. He also drew up for them a simple form of government, the execution of which was in his own and Yonaguska's hands until the death of the latter, after which the band knew no other chief than Thomas until his retirement from active life. In 1848 he was elected to the state senate and continued to serve in that capacity until the outbreak of the Civil War.

After the retirement of Thomas, in the absence of any active governmental supervision, need was felt of some central authority. On December 9, 1868, a general council of the East Cherokee assembled at Cheowa, in Graham County, North Carolina, took preliminary steps toward the adoption of a regular form of tribal government under a constitution. N. J. Smith, afterward principal chief, was clerk of the council. The new government was formally inaugurated on December 1, 1870. It provided for a first and a second chief to serve for a term of two years, minor officers to serve one year, and an annual council representing each Cherokee settlement within the State of North Carolina. Kalahu, "All-bones," commonly known to the whites as Flying-squirrel or Sawnook (Sawanugi), was elected chief. A new constitution was adopted five years later, by which the chief's term of office was fixed at four years.

The status of the lands held by the Indians had now become a matter of serious concern. As has been stated, the deeds had been made out by Thomas in his own name, as the state laws at that time forbade Indian ownership of real estate. In consequence of his losses during the war and his subsequent disability, the Thomas properties of which the Cherokee lands were technically a part, had become involved, so that the entire estate had passed into the hands of creditors, the most important of whom, William Johnston, had obtained sheriff's deeds in 1869 for all of these Indian lands under three several judgments against Thomas, aggregating $33,887.11. To adjust the matter so as to secure title and possession to the Indians, Congress in 1870 authorized suit to be brought in their name for the recovery of their interest. This suit was begun in May, 1873, in the United States circuit court for Western North Carolina. A year later the matters in dispute were submitted by agreement to a board of arbitrators, whose award was confirmed by the court in November, 1874.

The award finds that Thomas had purchased with Indian funds a tract estimated to contain 50,000 acres on Oconaluftee River and Soco Creek, and known as the Qualla Boundary, together with a number of individual tracts outside the boundary; that the Indians were still indebted to Thomas toward the purchase of the Qualla Boundary lands for the sum of $18,250, from which should be deducted $6,500 paid by them to Johnston to release titles with interest to date of award, making an aggregate of $8,486 together with a further sum of $2,478, which had been intrusted to Terrell, the business clerk and assistant of Thomas, and by him turned over to Thomas, as creditor of the Indians, under power of attorney this latter sum with interest to date of award, aggregating $2,697.89; thus leaving a balance due from the Indians to Thomas or his legal creditor, Johnston, of $7,066.11. The award declares that on account of the questionable manner in which the disputed lands had been bought in by Johnston, he should be allowed to hold them only as security for the balance of $7,066.11, with interest at 6 percent from the date of the award; the Indians should be entitled to a clear conveyance from him of the legal title to all the lands embraced within the Qualla Boundary.

To enable the Indians to clear off this lien on their lands and for other purposes, Congress in 1875 directed that as much as remained of the "removal and subsistence fund" set apart for their benefit in 1848 should be used "in perfecting the titles to the lands awarded to them and to pay the costs, expenses, and liabilities attending their recent litigations, also to purchase and extinquish the titles of any white persons to lands within the general boundaries alloted to them by the court and for the education, improvement, and civilization of their people." In accordance with this authority the unpaid balance and interest due Johnston, amounting to $7,242.76, was paid him in the same year and shortly afterward there was purchased on behalf of the Indians some fifteen thousand acres additional, the Commissioner of Indian Affairs being constituted trustee for the Indians. For the better protection of the Indians the lands were made inalienable except by assent of the council and upon approval of the President of the United States. The deeds for the Qualla Boundary and the 15,000 acre purchase were executed respectively on October 9, 1876, and August 14, 1880. As the boundaries of the different purchases were but vaguely defined, a new survey of the whole Qualla Boundary and adjoining tracts was authorized. The work was intrusted to M. S. Temple, deputy United States surveyor, who completed it in 1876, his survey maps of the reservation having been accepted as the official standard. The titles and boundaries having been adjusted, the Indian Office assumed regular supervision of East Cherokee affairs, and in June, 1875, the first agent since the retirement of Thomas was sent out in the person of W. C. McCarthy

Since the inalienable status was established in 1876, supposedly for the better protection of the Eastern Band of Cherokee Indian's lands, an estimated 40,000 acres have been lost of these purchased lands which were held in federal trust; diminishing at a rate of about 400 acres per year if averaged over the past 100 years A complete record of land losses has not been obtained, but since the time of the Temple Survey, we have found record of the loss of the following in Tribal Resolutions:

35,000 Acres	Love Tract	1910
634.3 Acres	Tallassee Power Co.	1913
1,320 Acres	Blue Ridge Parkway	1940

About 3,000 acres are not accounted for in the above listing, however, a thorough search of realty records would reveal their identity. Tribal records show only four land purchases by the Tribe since 1936:

126 Acres	Lands of John Lambert	1936
114 Acres	Lands of George Rich	1938
50 Acres		1940
900 Acres	Boundary Tree Tract (Traded for Blue Ridge Parkway)	1943

There are no doubt other land gains as well as losses since the purchase of the Cherokee lands and it would be interesting to see them listed in their entirety; however, our purpose is to the enlightenment of the Tribe, that while the population of the Cherokees is increasing, the number of acres is decreasing which will cause pressure on the use of land to intensify. Planning for the use of the land is therefore becoming more and more important. Another means of relief would be for the Tribe to engage in a land purchase plan.

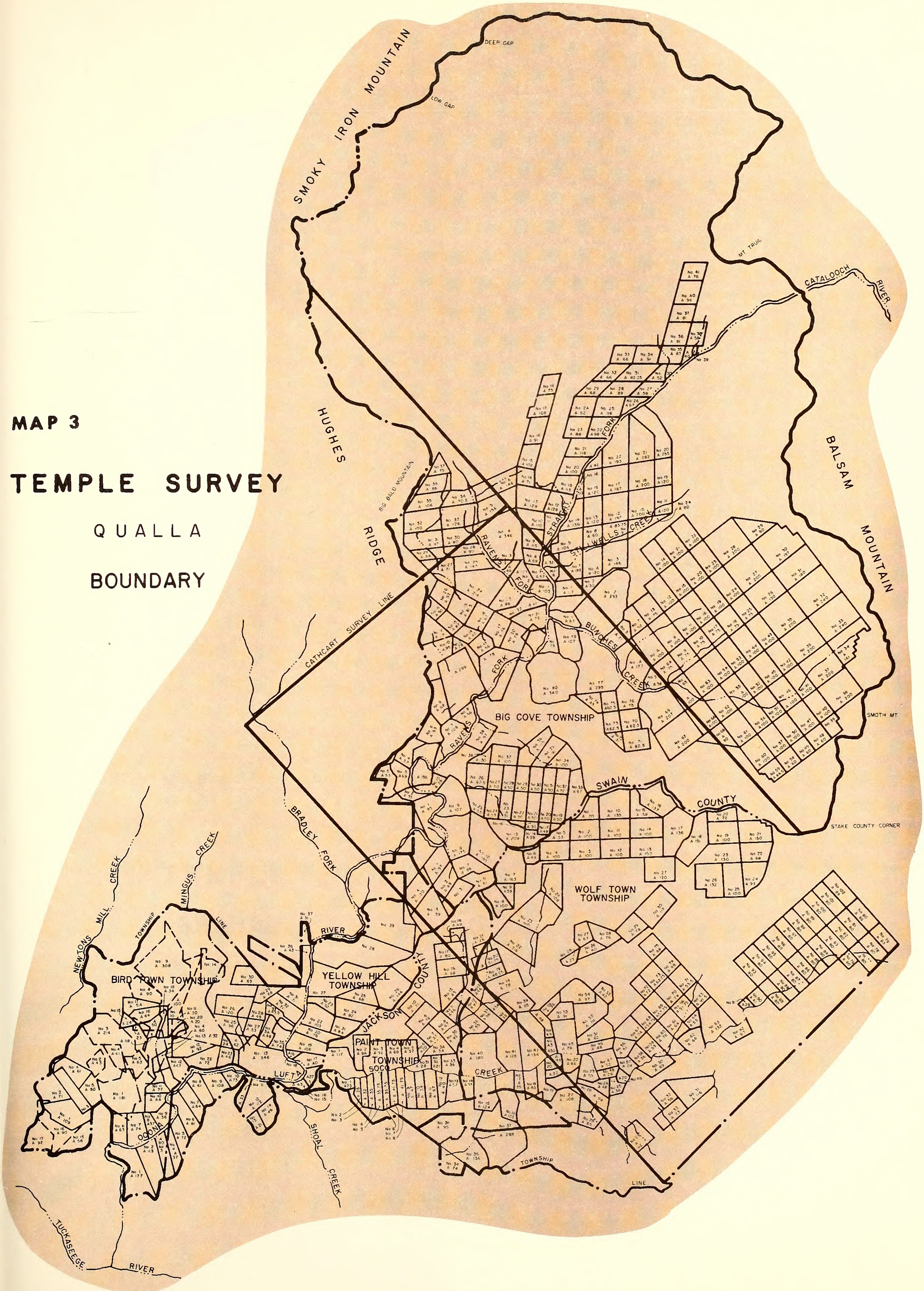
The following three maps are a reproduction of the Temple Survey (Maps Number 3, 4, and 5).

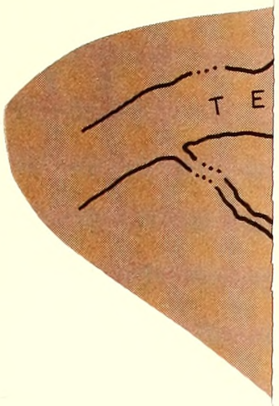
MAP 3

TEMPLE SURVEY

QUALLA

BOUNDARY

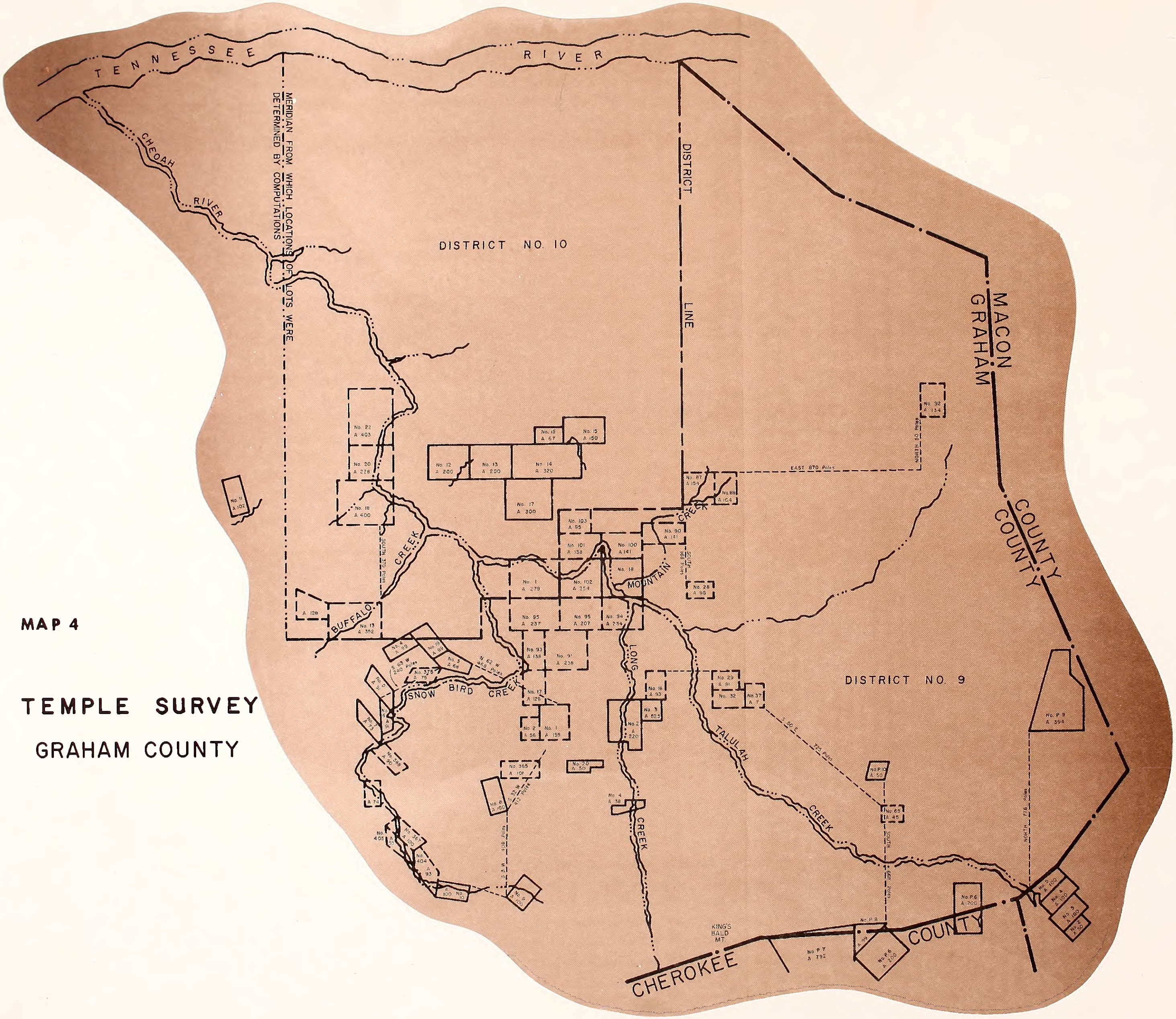




MAP 4

TEMPLE

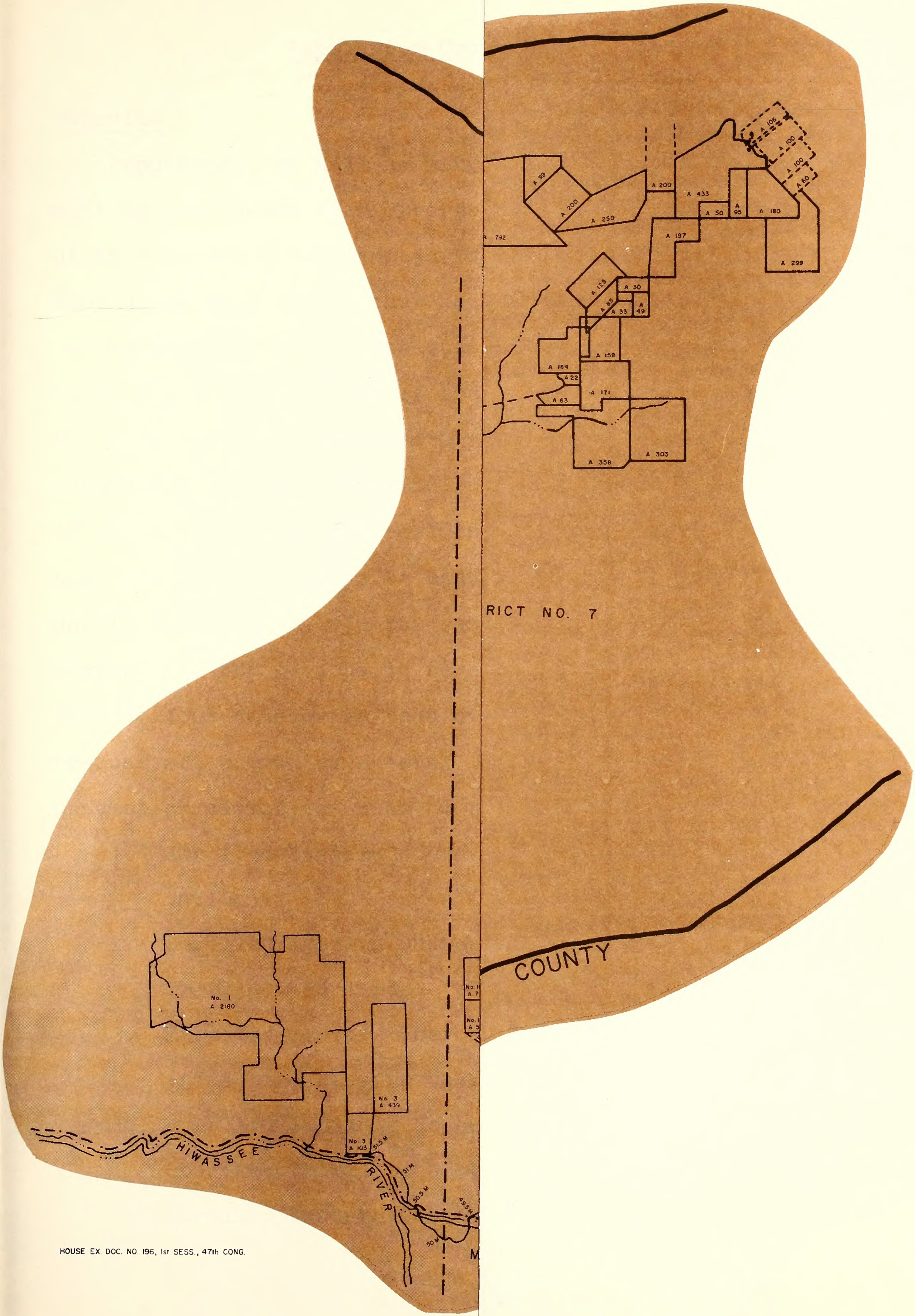
GRAHAM



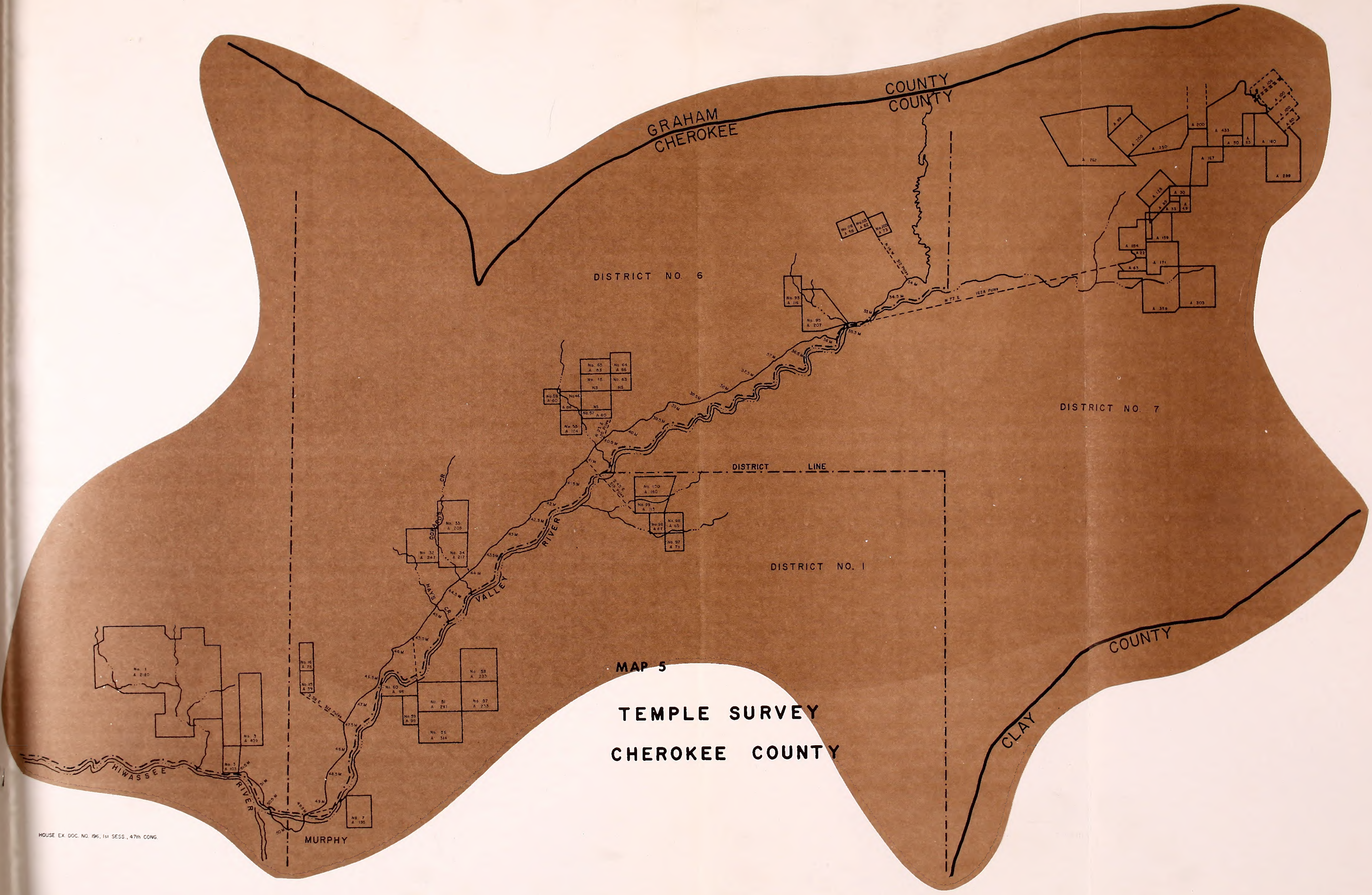
MAP 4

TEMPLE SURVEY

GRAHAM COUNTY



HOUSE EX. DOC. NO. 196, 1st SESS., 47th CONG.



MAP 5

TEMPLE SURVEY

CHEROKEE COUNTY

HOUSE EX. DOC. NO. 196, 1st SESS., 47th CONG.

Population Count and Projections

Overview

Population, as well as many other subjects pertaining to Indians, must be approached from divergent standards. When speaking of population in the Non-Indian world, one assumes total population of a subject area; a figure that usually includes white and non-white. On Indian Reservations the question of total population is assumed to mean enrolled Indians of that Tribe (living on the Reservation - Map #6), and is answered with a figure representing total Indian population excluding Non-Indians and often Indians who are members of other Tribes but are residing on lands of the subject tribe. A distinction must always be made as to the character of the group one is speaking of. In the case of the Eastern Band of Cherokee Indians and the persons to be counted in one regard or another, we find various categories that are used for a number of purposeful reasons not common or needful for Non-Indians. Some of the main population categories used by the Cherokees are as follows:

1. Enrolled Eastern Cherokees (Reservation and Non-Reservation).
2. Enrolled Eastern Cherokees living on Eastern Cherokee Tribal owned lands.
3. Enrolled Eastern Cherokees living on or adjacent to (near) the Eastern Cherokee Tribal owned lands.
4. Enrolled Indians, Non-Cherokee, living on Eastern Cherokee Tribal owned lands (usually married to an enrolled Eastern Cherokee).

5. Non-Indians living on Eastern Cherokee Tribal owned land. (This group consists of Non-Indians married to Eastern Cherokees, government employees, traders who lease businesses and a number of workers or employees of the various businesses and industries who would have to lease or rent, as they would not be able to purchase Tribal land. There is also an increasing number of Non-Indians who lease dwellings for summer homes or retirement.)

Geographic Subdivisions

Equal in importance to the five main population categories and somewhat more complex are the geographical subdivisions for population enumeration, government administration and other purposes useful to the Cherokees. The main categories and their subdivisions are:

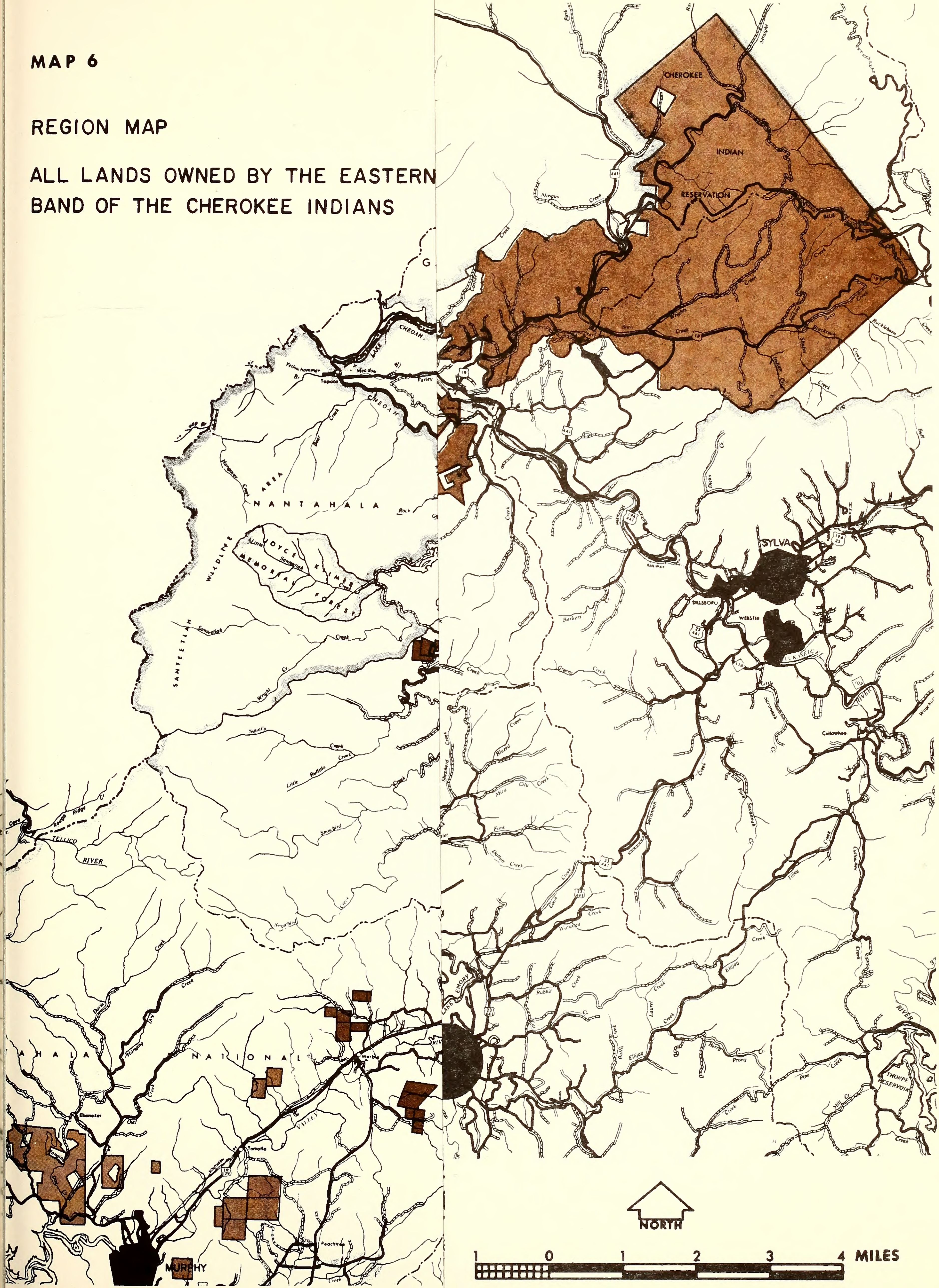
A. By County
    1. Cherokee
    2. Graham
    3. Haywood (no residents - Tribal Reserve)
    4. Jackson
    5. Swain

B. By Township (Tribal Voting Districts)
    1. Big Cove
    2. Birdtown
    3. Cherokee County
    4. Painttown
    5. Snowbird

MAP 6

REGION MAP

ALL LANDS OWNED BY THE EASTERN BAND OF THE CHEROKEE INDIANS



5. Non-Indians living on Eastern Cherokee Tribal owned land. (This group consists of Non-Indians married to Eastern Cherokees, government employees, traders who lease businesses and a number of workers or employees of the various businesses and industries who would have to lease or rent, as they would not be able to purchase Tribal land. There is also an increasing number of Non-Indians who lease dwellings for summer homes or retirement.)

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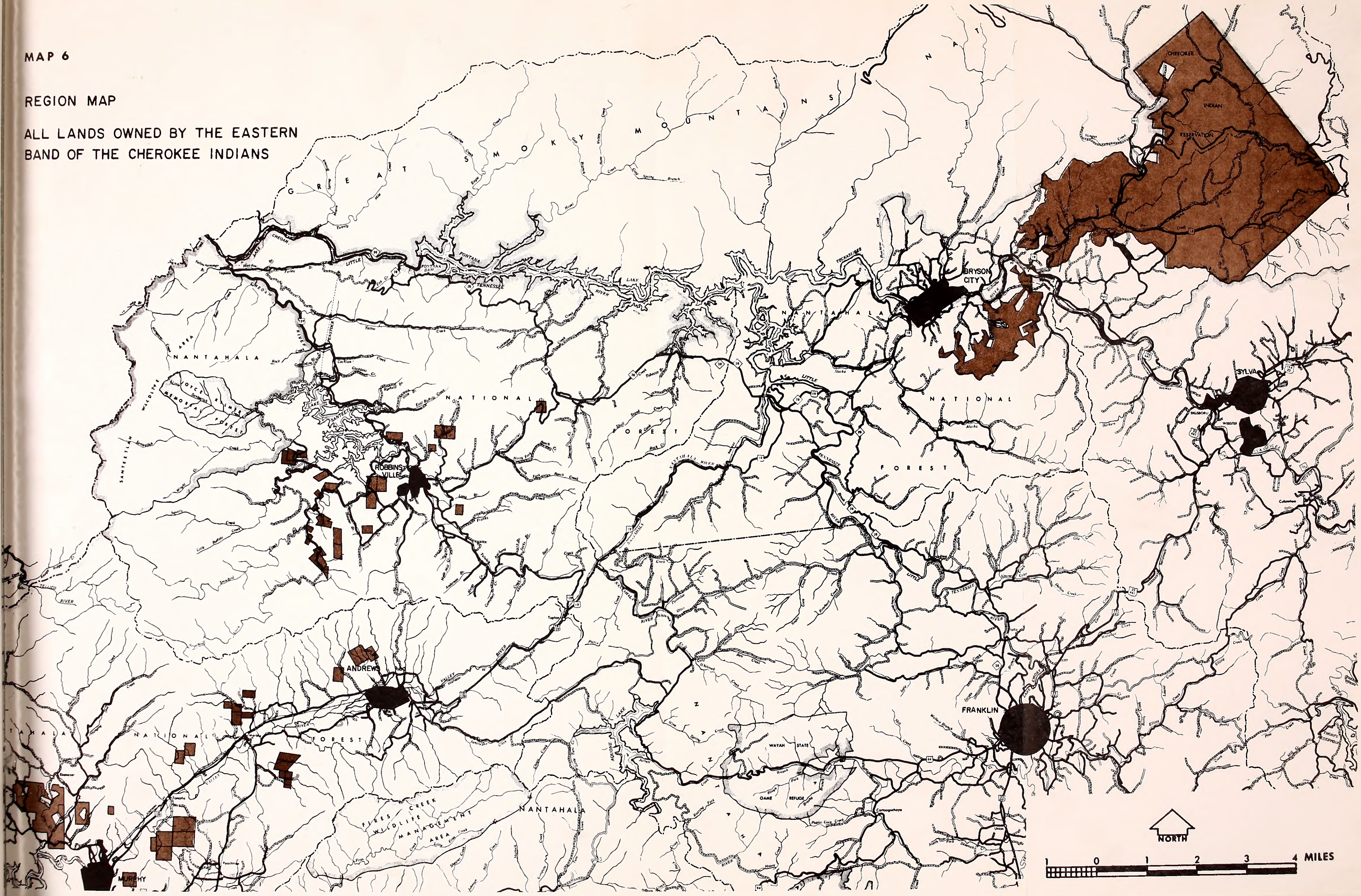


6. Wolftown

7. Yellow Hill

*The Tribal Council has twelve members which are elected for two year terms, two coming from each of the following townships--Big Cove, Birdtown, Painttown, Wolftown and Yellow Hill and one each from the Cherokee County and Graham County tracts.

C. By Community

1. 3200 Acre Tract
2. Big Cove
3. Birdtown
4. Cherokee County
5. Cherokee
6. Painttown
7. Snowbird
8. Soco
9. Big "Y"

See map numbers 7, 8, 9 and 10.

D. Major Land Distinctions

1. Possessory Holdings
2. Tribal Reserve

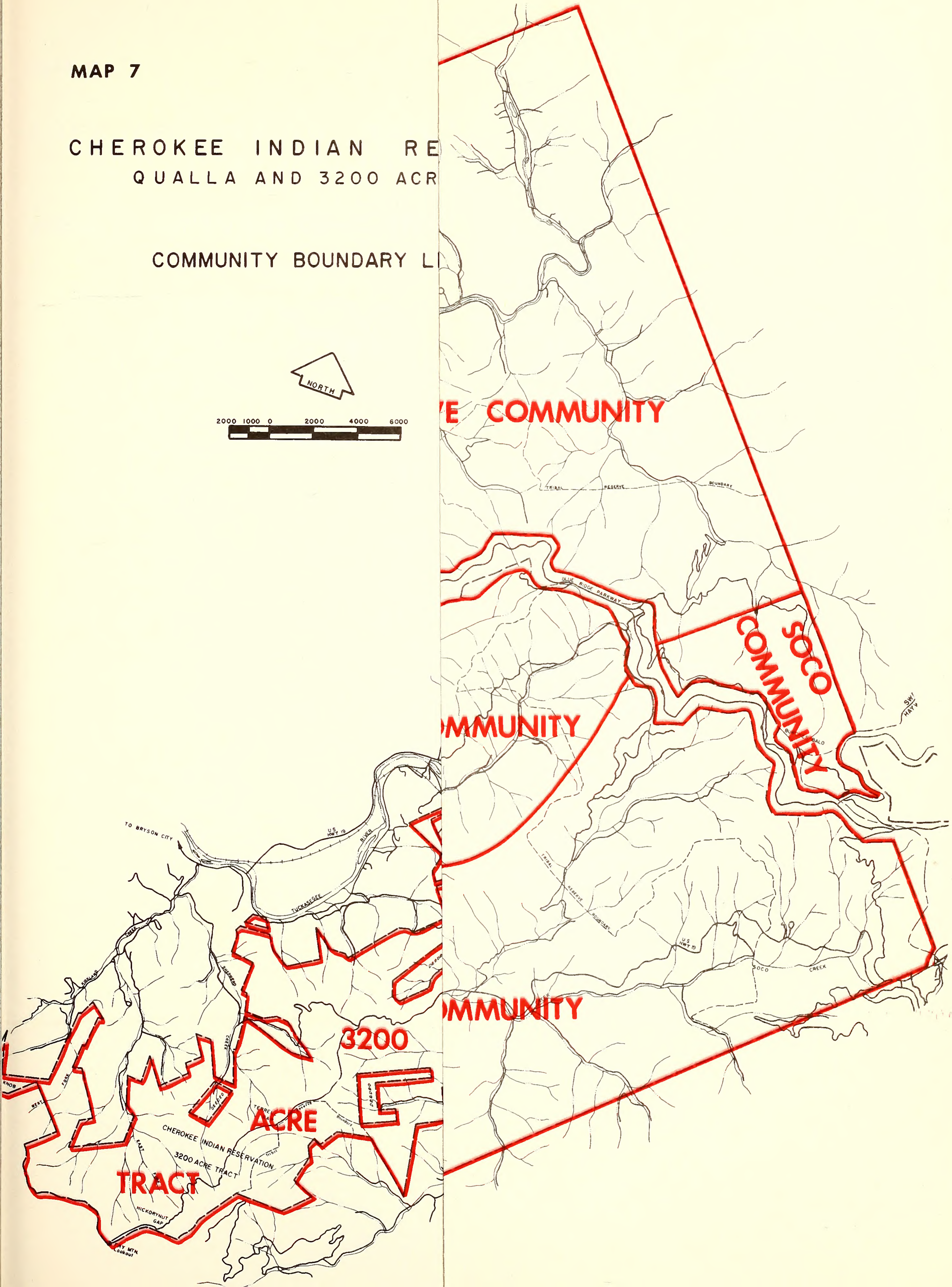
E. Land Groupings, Tracts and Boundary

1. Qualla Boundary (Map Number 8)
2. 3200 Acre Tract (Map Number 8)
3. Cherokee County Tracts (Map Number 9)
4. Graham County Tracts (Map Number 10)

MAP 7

CHEROKEE INDIAN RE
QUALLA AND 3200 ACR

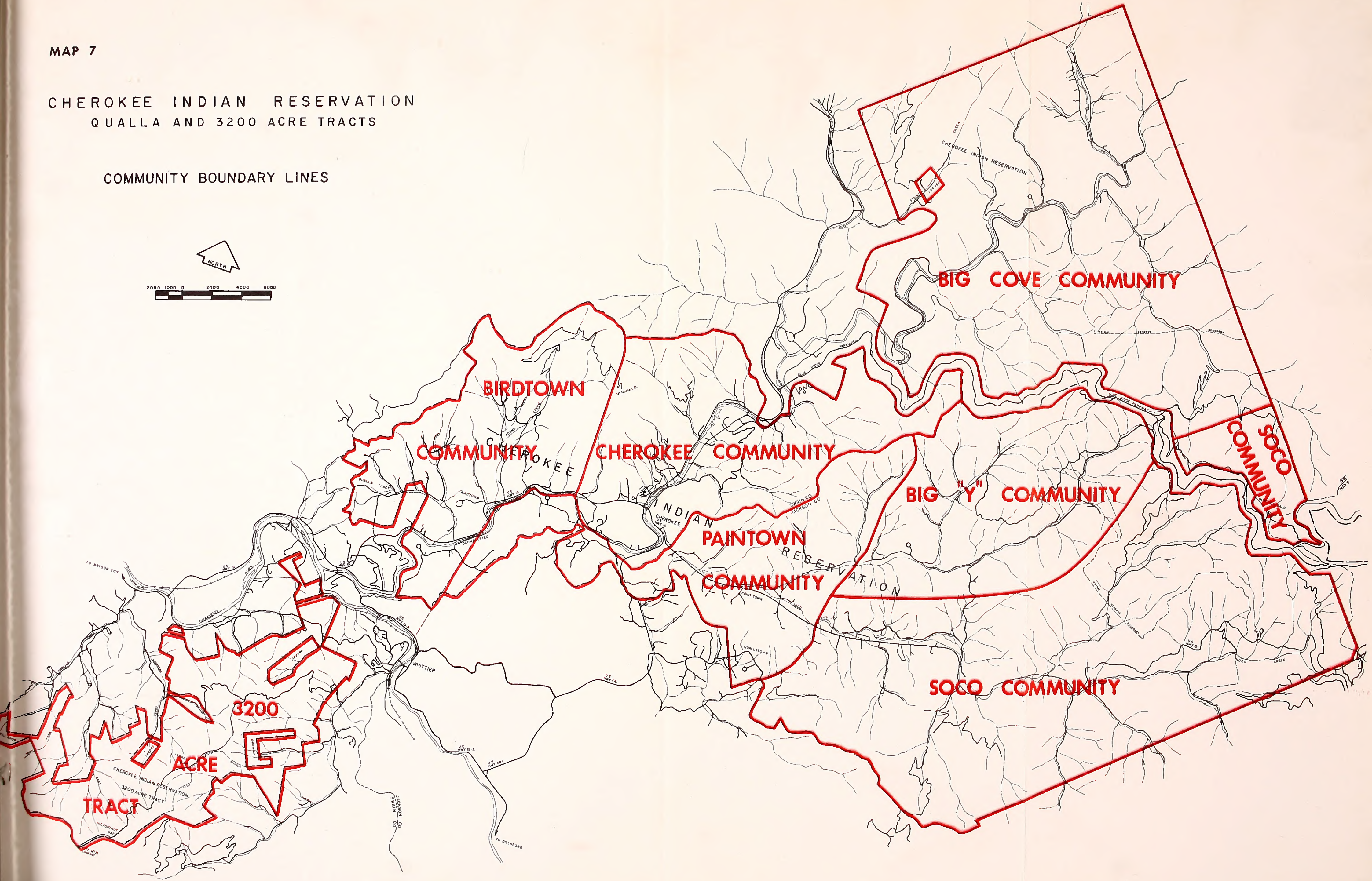
COMMUNITY BOUNDARY LI



MAP 7

CHEROKEE INDIAN RESERVATION
QUALLA AND 3200 ACRE TRACTS

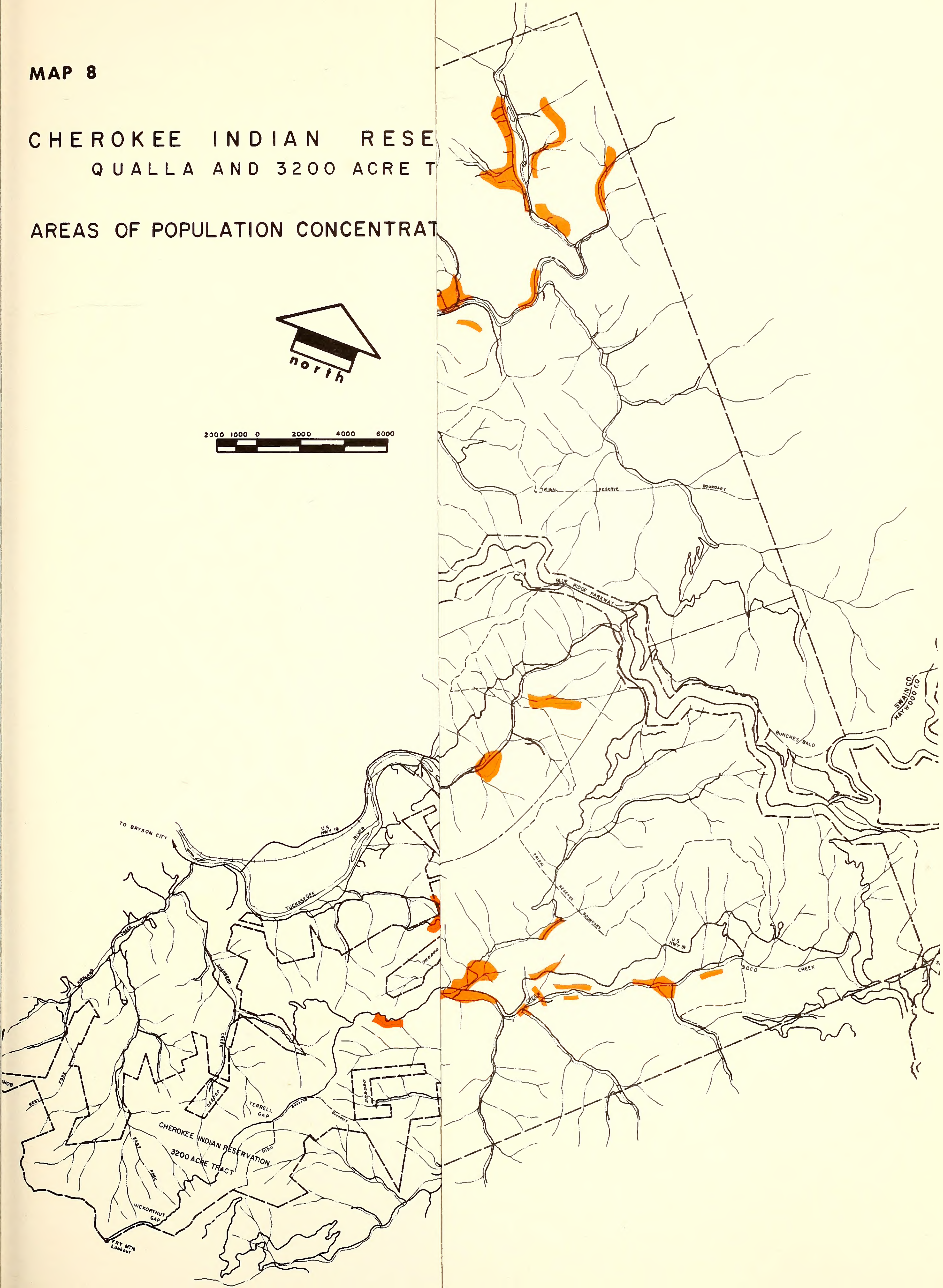
COMMUNITY BOUNDARY LINES



MAP 8

CHEROKEE INDIAN RESE
QUALLA AND 3200 ACRE T

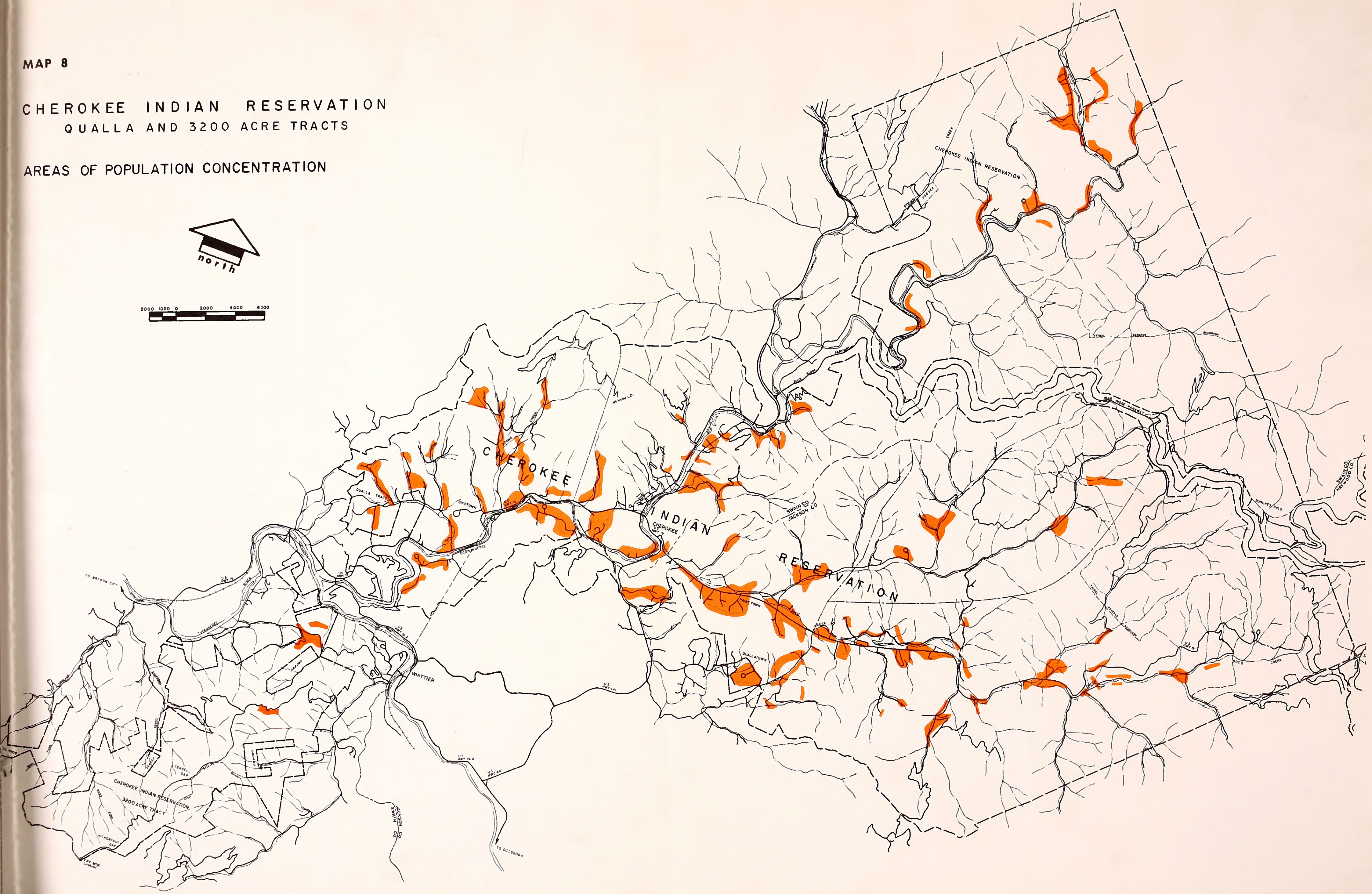
AREAS OF POPULATION CONCENTRAT

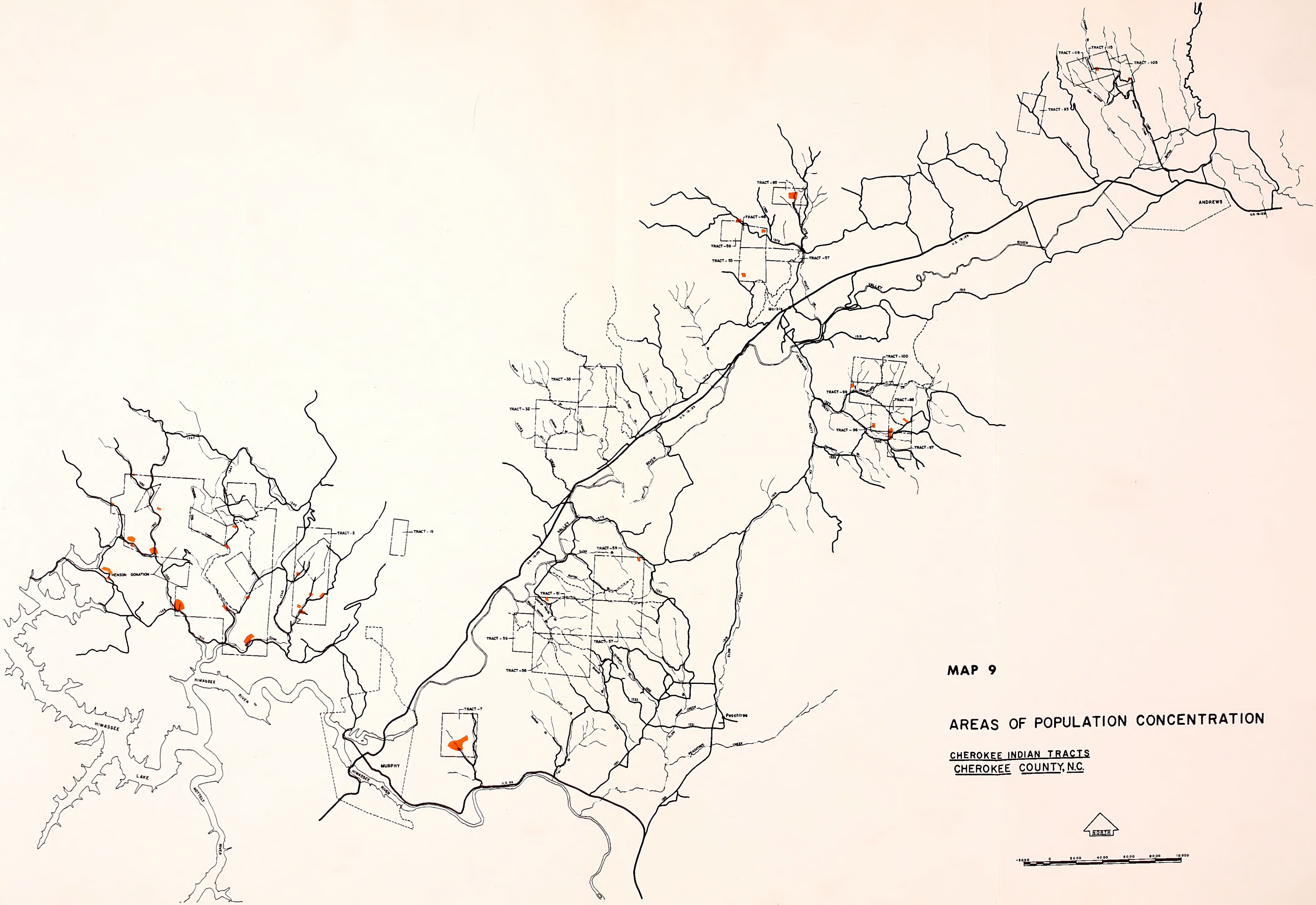


MAP 8

CHEROKEE INDIAN RESERVATION
QUALLA AND 3200 ACRE TRACTS

AREAS OF POPULATION CONCENTRATION

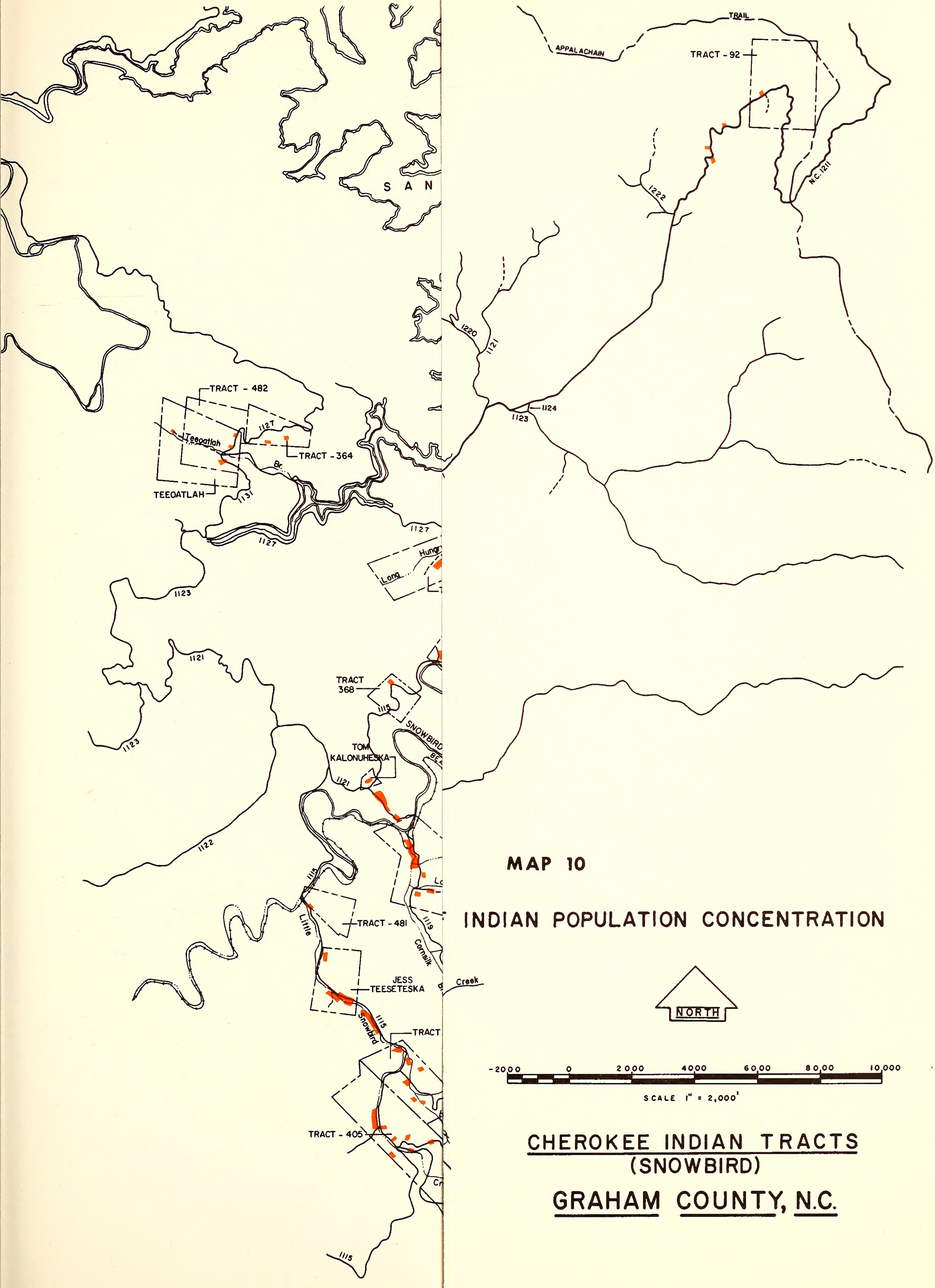




MAP 9

AREAS OF POPULATION CONCENTRATION

CHEROKEE INDIAN TRACTS
CHEROKEE COUNTY, N.C.

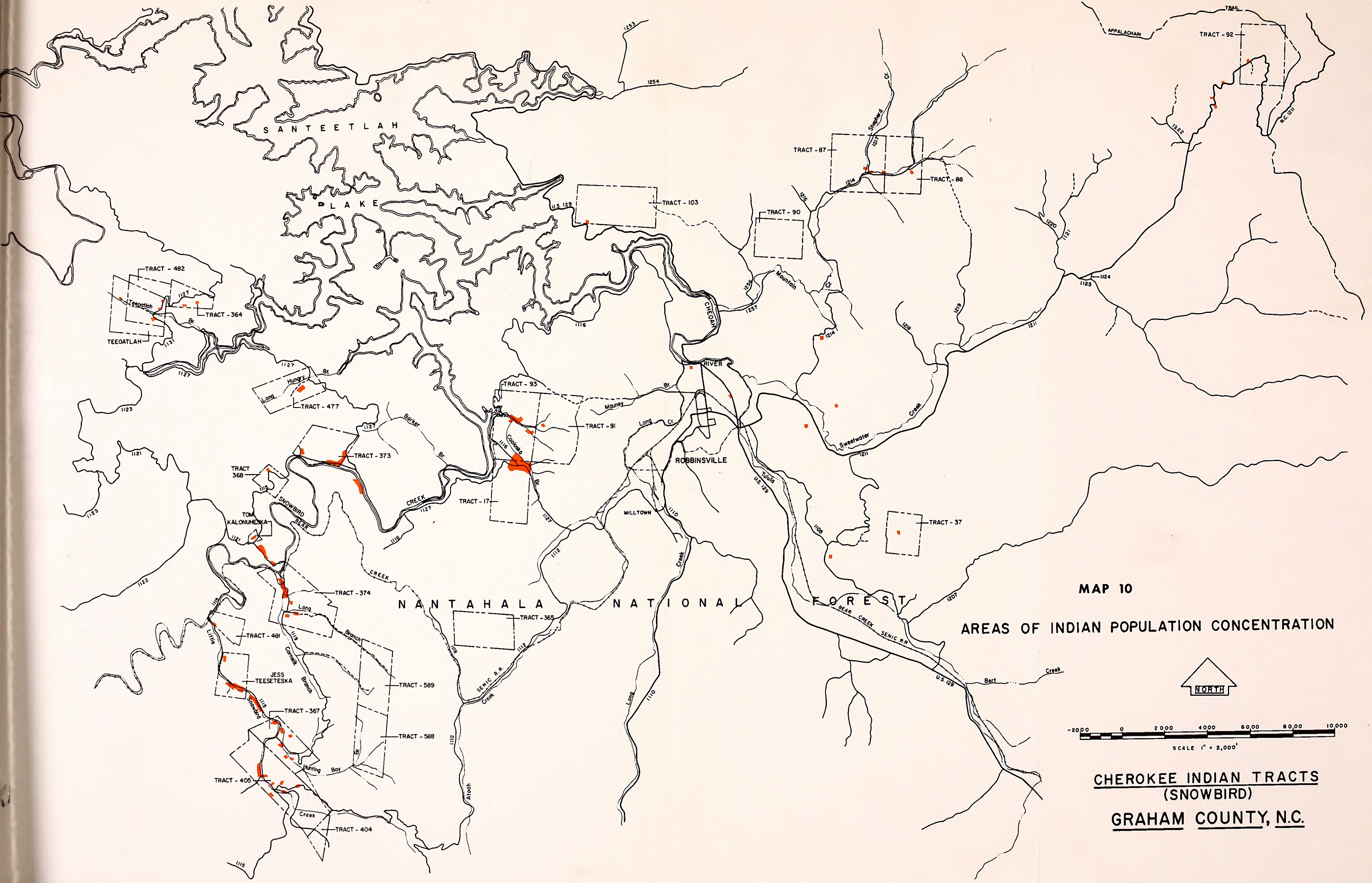


MAP 10

INDIAN POPULATION CONCENTRATION

CHEROKEE INDIAN TRACTS
(SNOWBIRD)

GRAHAM COUNTY, N.C.



MAP 10

AREAS OF INDIAN POPULATION CONCENTRATION

CHEROKEE INDIAN TRACTS
(SNOWBIRD)
GRAHAM COUNTY, N.C.

Realiability of Population Sources

The two main sources of information on past Indian population are: (a) the annual census published in the reports by the various Commissioners of Indian Affairs since 1861, and (b) the decennial publications on general population issued by the Bureau of Census, which listed Indians separately beginning with the year 1850. Both sources contain significant errors. Moreover, the difference in their respective methods of enumerating and classifying precludes close comparison. Worse, both sources have frequently changed their methods of enumerating and classifying; hence, neither can be readily used to compute trends over long periods.

Indians Variously Defined

The 1910 census classed as Indians "all persons of mixed blood who have any appreciable amount of Indian blood"--obviously a flexible and uncertain criteron. Enumerators of the 1930 census were instructed to include persons of mixed blood except where the individual "is regarded as a white person in the community where he lives." A person of mixed Indian and Negro blood was to be classified as Negro, "unless the Indian blood predominates, and the status as an Indian is generally accepted in the community."

The Indian Office, on the other hand, aims especially to count what might be termed official Indians. It has usually defined Indians as persons on the official roll of any Tribe, and hence has sometimes included in its count many of negligible Indian blood, besides intermarried whites; but the definition is disregarded in its extensive estimating. Furthermore, Tribal rolls have sometimes been years out of date and often many Indians on a given Tribal roll do not live on the Reservation which counts them......a further cause of discrepancies between the Indian Office and the Census Bureau.

The annual figures of the Indian Office for population on most reservations are rough estimates corrected by actual counts only when special administrative need arises. To compute population trends it was necessary to segregate the reservations or bands for which actual yearly counts were apparently made. The result was two newly constructed registration areas, covering respectively 64 reservations or bands from 1900-1934 and 92 reservations or bands from 1910-1934. The samplings indicate that from 1910 to 1930 enrolled Indians increased at almost precisely the same rate as the total Negro population of the United States. Indian population probably declined at varying rates for these centuries prior to approximately 1905. Increases since then have been largely or wholly among persons of mixed blood.

Methodology

The Eastern Band of Cherokee Indians having lands scattered in five Western North Carolina counties and population scattered over four counties causes great inaccuracy when attempting to determine present or future populations. Until the census of 1970, population questions on the census questionnaires did not include "American Indian" and "Tribe" under heading Number 4. Color or Race. This omission in the census information causes the past decennial census records to be of little or no use in determining population trends or projections. A problem arises in using the U.S. Census of 1970 due to the supposedly 15 - 20 percent sampling, which in reality is considerably less.

If one were to use the 1970 census for a population count of the Eastern Band of Cherokee Indians and giving the maximum benefit of doubt under the heading of "other" and further delineation by utilizing township numbers for the two counties of Jackson and Swain, which have the higher concentrations of Indian population, one would arrive at the following number of Indians:

Cherokee Co.	Graham Co.	Jackson Co. Qualla Twp.	Swain Co. Charleston Twp.
79	320	1,819	993

Total - 3,211 Indians

In 1972, the official number recognized for the purpose of revenue-sharing funds was 4,796:

Cherokee Co.	Graham Co.	Jackson Co.	Swain Co.
71	320	1,858	2,547

In actuality, a house-to-house survey conducted by the "Aid to Tribal Government Program" staff shows a more accurate figure of 5,030 Indians (1972).

Cherokee Co.	Graham Co.	Jackson Co.	Swain Co.
149	454	1,863	2,561

As shown below, the results indicate a remarkable degree of error by the official 1970 census compared to the house-to-house survey carried out by the "Aid to Tribal Government Program" staff.

	U.S. Census	Actual Survey	# Difference
Cherokee Co.	79	149	70
Graham Co.	320	454	134
Jackson Co.	1,819	1,863	44
Swain Co.	993	2,564	1,571
Totals	3,211	5,030	1,819

Comparing the number of Indians recognized for revenue-sharing with the actual survey results in a total of 234 Indians for which the Tribe is not receiving revenue-sharing funds.

	Revenue-Sharing Number	Actual Survey	Number Difference
Cherokee Co.	71	149	78
Graham Co.	320	454	134
Jackson Co.	1,858	1,863	5
Swain Co.	2,547	2,564	17
Totals	4,796	5,030	234

In 1972, there were 301 Non-Indians residing on lands owned by the Eastern Band of Cherokee Indians which are not included in any of the above figures.

Population by County

County	Total Population	Number Indians	% Indians of Total	Number of Non-Indians on Tribal Land	Total Population on Tribal Land
Cherokee	16,330	149	.91	-0-	149
Graham	6,562	454	6.92	9	463
Jackson	21,593	1,863	8.62	100	1,963
Swain	7,861	2,564	32.62	192	2,756
Totals	52,346	5,030	(Avg. 12.27)	301	5,331

The above chart uses the 1970 official U.S. Census figures for the total population of counties and the other figures used are from the actual survey made by the "Aid to Tribal Government Program" staff in 1972.

Areas of Population Concentration

Because it is important in any Land Development Plan to known where the population exists, the maps indicating the areas of population concentration are reproduced in this study from the previous publication - Population and Economy Study, Eastern Band of Cherokee Indians. As can be seen from Maps 8, 9 and 10 the population of the Cherokees is widely scattered with small concentrations and having no main population center causing planning of any facilities to serve the homes and citizens to be extremely difficult if economic factors are considered.

Official Enrollment

Enrollment or census records have periodically been established for the Cherokees as a requirement by the federal government for allotments, removal purposes and even for offensive and defensive reasons from the early 1800's on. The most recent was an up date of the "Revised Baker Roll" compiled by the Tribal Enrollment Office in 1974 with a cut-off date of October 8, 1974. This roll was taken for the purpose of alloting a per capita payment for the settlement of an Indian claims case and produced an exceedingly accurate, modern census record:

Eastern Band of Cherokee Indians
Official Enrollment, October 8, 1974

Total Enrolled Members	8,381
Enrolled Members Residing on EBCI Lands	5,550
Enrolled Members Residing off EBCI Lands	2,831

Population Projections

It is impossible to derive any accurate conclusion of the characteristics of the Eastern Band of Cherokee Indians by using U.S. Bureau of the Census statistics or any other known statistic gathering agency except in the case where an actual sample was taken. Using county figures in a "step-down process" provides inaccurate and unacceptable data as was seen in the Incidence of Poverty report that was never officially published. The U.S. Bureau of the Census (1970) figures on the total count of Eastern Cherokees were 39.8 percent in error and therefore unusable for any kind of population projections. On Table Number 1, we established the Indian population as a percent of the county populations and carried this step-down process to the year 2,020 using the Environmental Protection Agency's "Projected Population by County" figures for the base. We then reworked the base with an in-migration factor which produced the numbers shown on Table Number 2. There is a difference here of 2,500 which could be accounted for by the in-migration factor and the Non-Indians that are not accounted for in the base.

We know that the Cherokee Indians have unique problems and reside in drastic contrast to their Non-Indian neighbors in each of the counties in which they are encompassed. One of the most important factors is the element of in-migration. Much of the reason for this is due to the trend of Indians that were previously relocated, now returning home to their Reservation; a trend common to all reservations not just the Eastern Cherokees. Another important element is the increase in federal programs which brings in an increasing number of Non-Indian employees to participate in the administering of programs related to health and education as prime factors along with economic and construction activities for the balance.

The Cherokees are experiencing a "boost" in their economy (Qualla Boundary) with the expansion and increase of business and industry,

TABLE #1

THE ENVIRONMENTAL PROTECTION AGENCY'S "PROJECTED POPULATION BY COUNTY" HISTORIC POPULATION (1940-1970)[1] AND BASE-LINE POPULATION PROJECTIONS (1980-2000)[2] FOR N. C. COUNTIES

EBCI = CURRENT PERCENT OF COUNTY POPULATIONS (1970) INDIAN ONLY

Total County Population

County	1940	1950	1960	1970	1980	1990	2000	2010	2020
Cherokee	18,813	18,294	16,335	16,330	17,500	19,000	20,500	22,500	24,500
.91% EBCI Only	171	166	149	149	159	173	187	205	223
Graham	6,418	6,886	6,432	6,562	6,800	7,300	8,000	8,500	9,300
7.06% EBCI Only	453	486	454	463	480	515	565	600	657
Jackson	19,366	19,261	17,780	21,593	25,800	31,000	35,500	40,500	45,500
9.09% EBCI Only	1,760	1,751	1,616	1,963	2,345	2,818	3,227	3,681	4,136
Swain	12,177	9,921	8,387	7,861	8,500	9,300	10,500	11,700	12,500
35.06% EBCI Only	4,269	3,478	2,940	2,756	2,980	3,261	3,675	4,102	4,383
County Totals	56,774	54,362	48,934	52,346	58,600	66,600	74,500	83,200	91,800
EBCI Total	6,653	5,881	5,159	5,331	5,964	6,767	7,654	8,588	9,399

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[1] United States Department of Commerce, Bureau of the Census; [2] North Carolina Social Sciences Advisory Committee; North Carolina Department of Natural and Economic Resources.

TABLE #2

EASTERN BAND OF CHEROKEE INDIANS - POPULATION PROJECTIONS
WITH IN-MIGRATION FACTOR OF 50 PER YEAR
BASE COMPUTED FROM EPA'S "PROJECTED POPULATION BY COUNTY"
(See Table #1)

County	1940	1950	1960	1970	1980	1990	2000	2010	2020
Cherokee				149	159	173	187	205	223
In-Migration Factor					10	20	30	40	50
Sub Totals					169	193	217	245	273
Graham				463	480	515	565	600	657
In-Migration Factor					40	80	120	160	200
Sub Totals					520	595	685	760	857
Jackson				1963	2345	2818	3227	3681	4136
In-Migration Factor					190	380	570	760	950
Sub Totals					2535	3198	3797	4441	5086
Swain				2756	2980	3261	3675	4102	4383
In-Migration Factor					260	520	780	1040	1300
Sub Totals					3240	3781	4455	5142	5683
EBCI By County Totals				5331	5964	6767	7654	8588	9399
In-Migration Totals					500	1000	1500	2000	2500
Projection Totals					6464	7767	9154	10,588	11,899

SOURCE: United States Department of Commerce, Bureau of the Census; North Carolina Social Sciences Advisory Committee; N.C. Dept. of Natural & Economic Resources.

whereas the Non-Indian portions of Swain and Jackson counties are declining rapidly in population caused by losses in industry and inability to develop tourist attractions in recreation and craft-oriented businesses. Cherokee has established an Economic Development branch of their Tribal Government administration, headed by Robert Blankenship, which has effectively met the demands for jobs by assisting industry to expand and locate on the Reservation. A Business Development Office, directed by Charles Saunooke, has assisted many residents in establishing businesses of their own. It will be a tremendous challenge in the next few years for these two programs to accommodate the increasing demands for industry, restaurants, motels, recreation, shops, services and housing which will provide year-round jobs and accommodations for the natural increase in population; the enrolled members "returning home" and the wives and husbands of both Indian and Non-Indian - a situation which is complicated by the seasonal characteristics of the economy.

For some purposes such as the "201" Water and Sewer Facility Planning, we have been requested to present population projections by using certain base data which is available in Table Number 1 and which is not acceptable to the Tribe because of the methodology used. Even with the in-migration factor added into the base as shown on Table Number 2, we still have inaccurate data. Table Number 1 is totally void of any Non-Indian population considerations. Table Number 2 is allowing for nominal Non-Indian in-migration. Table Number 1 shows a total of 6,653 Eastern Cherokee Indians in 1940 and we know the total of Eastern Cherokees was 3,146 in 1929 (11 years earlier) making it impossible for the Tribe to more than double in eleven years. Rather than an eradic in and out migration, the Cherokees have experienced a steady, natural increase.

Births, Deaths and Population Projections

Because the population of the Eastern Band of Cherokee Indians is increasing, the number of births and deaths each year would normally increase proportionally. However, taking the number of infant live births for a recent five-year period, (1968-1972) produces an average of 123.4 per year. Over a period of 1950 to 1974 an average of 122.4 births is given. Death rates have shown a steady increase over the same 24 year period with an average of 19.17 per year for the years 1950 to 1974 and taking the same recent five-year period (1968-1972), the average per year is 31.60, an increase of 39.34 percent.

Year	Births	Deaths	Natural Increase
1950	103	28	75
1951	141	18	123
1952	130	17	113
1953	100	7	93
1954	95	11	84
1955	121	14	107
1956	101	18	83
1957	124	15	109
1958	108	7	101
1959	130	15	115
1960	128	16	112
1961	127	13	114
1962	112	17	95
1963	147	20	127
1964	166	24	142
1965	127	15	112
1966	128	21	107
1967	102	23	79
1968	101	22	79
1969	156	30	126
1970	138	25	113
1971	116	27	89
1972	121	29	92
1973	116	28	88
1974	124	21	103
	3,062	481	2,581

For an apparently unexplained reason, the years having an increase in number of births, also have an increase in the number of deaths.

Years	Average Number - Natural Increase Per Year
1950 - 1955	98
1955 - 1960	103
1960 - 1965	118
1965 - 1970	101
1970 - 1975	97

Although taking an average of the natural increase for the 25 year period produces an average of 103.2 per year, the above table indicates a definite rise and fall for the five periods with a decided peak during the years 1960 - 1965.

It has been customary for the Tribe and the Bureau of Indian Affairs Agency at Cherokee to use the figure of 100 for each year to project population increase for the Eastern Band of Cherokee Indians. By omitting the period of 1960 - 1965 and averaging the other four periods, the result is 100. If the present trend of natural increase continues and the in-migration rate maintains a like steady trend, we can expect the future population on lands belonging to the Eastern Band of Cherokee Indians to be as shown on Table Number 3. Because this table reflects the true nature of population trends for the bounds of the Cherokee Reservation, it is this table we will use for the growth patterns for this study. We will also assume the population will double in 35 years or by 2005.

Table #3

POPULATION PROJECTIONS
EASTERN BAND OF CHEROKEE INDIANS
INDIAN & NON-INDIAN ON TRIBAL OWNED LANDS

County	1970	1980	1990	2000	2010	2020
Cherokee	149	179	209	239	269	299
Graham	463	583	703	823	943	1063
Jackson	1963	2533	3103	3673	4243	4813
Swain	2756	3536	4316	5096	5876	6656
Totals	5331	6831	8331	9831	11,331	12,831

SOURCE: Eastern Band of Cherokee Indians - Tribal Enrollment Records.
U.S. Public Health Service, Indian Health Service - Birth & Death Records.
N.C. Department of Natural and Economic Resources.

Forest Development

Within the "Qualla Boundary" and "3200 Acre" Tracts there are 45,930 acres, of which 1,320 acres are withdrawn from use by the Blue Ridge Parkway, 6,630 acres are within what has been designated as Tribal Reserve, and 37,980 acres (83 percent) are apparently in Possessory Holdings.

Of the Tribal Reserve's 6,630 acres, 99 percent (6,550 acres) is forested. Only parts of these forested lands now contain saw timber sized trees in sufficient numbers for any consideration of an early sawlog harvest; 87 percent (5,720 acres) of the Tribal Reserve and 64 percent (20,930 acres) of the Possessory Holdings. On the other areas essentially all of the trees are now too small for any commercial use other than pulpwood or fuel.

The estimated (reconnaissance) total net volume in sawtimber - sized trees of all species on the Tribal Reserve is 27 million board feet and on the Possessory Holdings it is 112 million board feet, for a combined total of 139 million board feet. Not all of this is currently merchantable, however. Species composition is quite mixed, but in each ownership class a little over half the total volume is made up of the most desirable species. The application of existing growth measurements to the reconnaissance inventory develops a total annual growth of 10.4 million board feet on the "Qualla" and "3200 Acre" Tracts of the Reservation; however, until more complete data are available it is believed that 7.5 million board feet would be a more reasonable estimate. Of this, 1.5 million is on Tribal Reserve and 6.0 million is on the Possessory

Holdings. Future growth is subject to cutting practices.

There are good prospects for making the timber resource yield a continuous and substantial income (while being a source of employment) if the Tribe were willing to establish better management objectives and policies, overcome the present land status problem, and obtain the basic information needed to develop an effective plan. The key would be to bring the Tribal Reserve and Possessory Holdings under one unified plan that would place all the forest under good management providing for both cutting and growth.

Current timber sales result and the excess plant capacity in the area indicate that the best route for the Tribe to take in developing its forest resource would be to establish a concentration yard for the purchase and sale of logs and other forest products, operating within a general forest management plan for the Cherokee Reservation which would include the 25 tracts in Cherokee County and the 25 tracts in Graham County.

If the Tribe were to establish a Forest Products Enterprise in the future, some of the first steps to be taken would be to determine the land status (individual Possessory Holdings and the Tribal Reserv) boundaries, to make a timber cruise, to lay out a system of logging units, and to make a value appraisal of the forest on each of the land status units. The appraisal would determine the percentages by which income from a logging unit would be distributed among the timber "owners" in the logging unit.

Operating in the knowledge of a forest inventory and market conditions, under the requirements of a forest management plan, the suggested Enterprise would annually decide what timbered areas were to be cut to develop the best income from the timber. The Enterprise would then arrange with contract loggers and haulers to cut and deliver the logs (or other forest products) to the concentration yard. From here the logs would be sold in such a manner (quality upgrading, proper timing, stimulating competition, etc.) as to bring maximum prices. After deductions for logging and hauling costs, yard costs and commissions, the net return would be distributed back to the timber "owners" in the logging unit from which the timber came. Arrangements for advance payments for logs and the purchase of non-Reservation logs would be considered useful.

Although there would be many advantages in a long-term forest management and harvest plan as suggested, the disadvantages need to be expressed. The most important factor would be the initial front end costs, which at current day estimates for land, labor, equipment and etc. would be approximately $200,000 - an amount that no doubt would require some government subsidizing. A railyard deserves major consideration as it is a necessary requirement for functional success and as there are no rails on the Reservation, it would probably have to be located in the Whittier area. Another potential problem exists with the marketing aspect due to holding timber for more desirable monetary profit. This problem can be eliminated by cooperative or contractural arrangement with the buyers; without some prearranged agreement, experience has shown that buyers will often delay purchase until normal deterioration of the harvested timber forces sale at lower than profitable rates.

The new industry, Warrior's Woodcrafters is another secondary forest utilization possibility producing domestic articles for the tourist market.

Another product of the forest available for exploitation under good management is recreational development, of which there are many such opportunities on the Cherokee Reservation. Both income and employment can be produced through recreational type development. The first step, however, should be an inventory of the possibilities, and the second step a coordination of the recreational use with the forest management requirements.

There are a few areas which are shown on Map Number 11 that under optimum conditions should not be logged for at least 20 years:

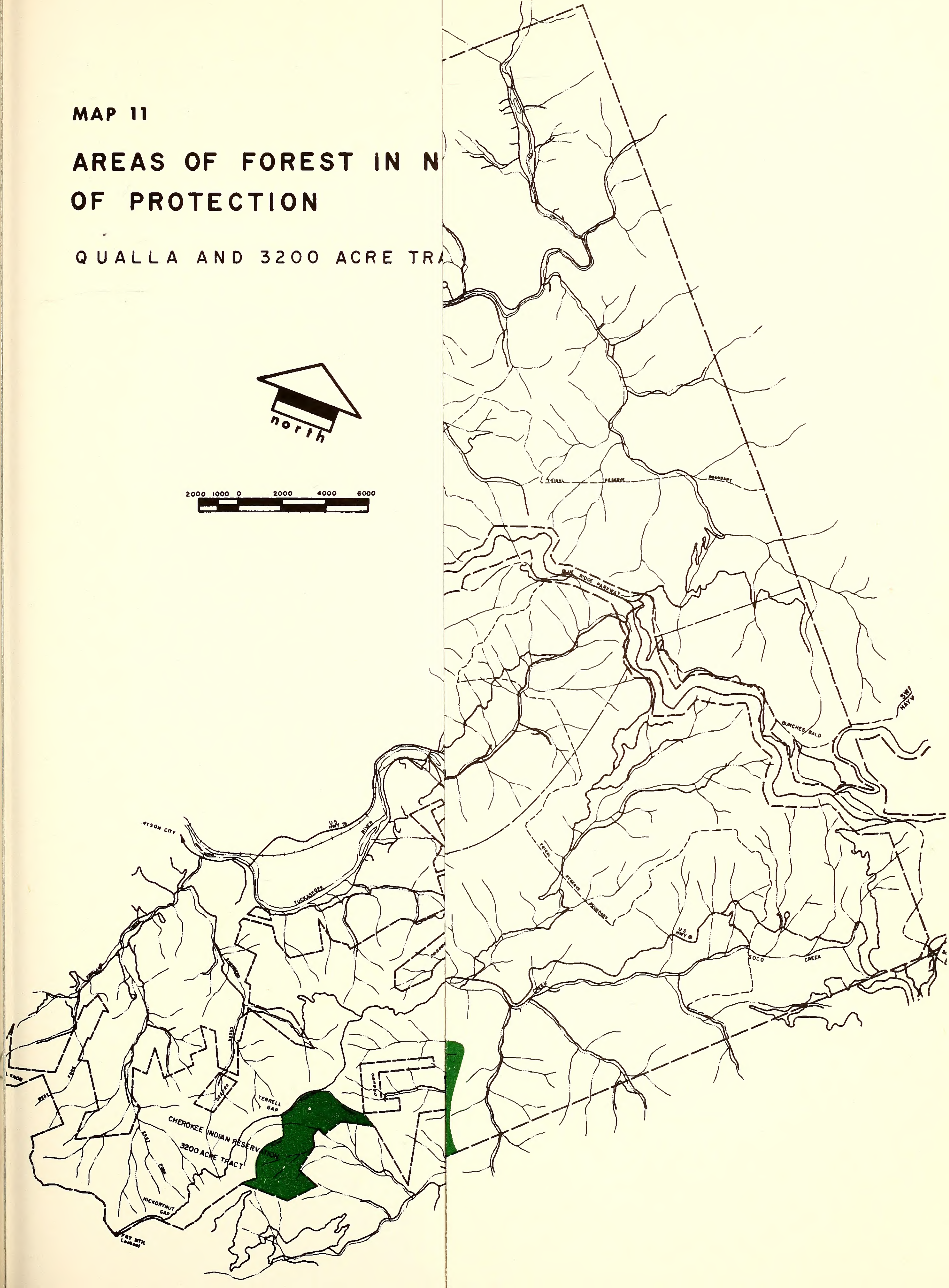
1. Boundary Tree and Mingo Falls Campground.
   These both have trails for tourist and camper recreation. The Boundary Tree area probably will have development along this line in years to come.
2. Pheasant Creek Watershed.
   Currently is the Soco area watershed. Logging is going on here now, but when it ceases, the Tribe should obtain possession and close it off to all activities indefinitely.
3. William Cove Tribal Land, "3200 Acre" Tract.
   This tract was logged about two years ago and since, thinning and cleaning work was done here to make a demonstration unit. It is included in the 20 year restriction group, but it may offer another feasible logging show in less time. Its inaccessibility (at this time) limits potential to a timber producing site.

These four areas are the only ones in need of protection that can be protected at this time. Other areas (road sides, scenic vista) that appear to warrant consideration, first of all, are not as critic

MAP 11

AREAS OF FOREST IN N
OF PROTECTION

QUALLA AND 3200 ACRE TR



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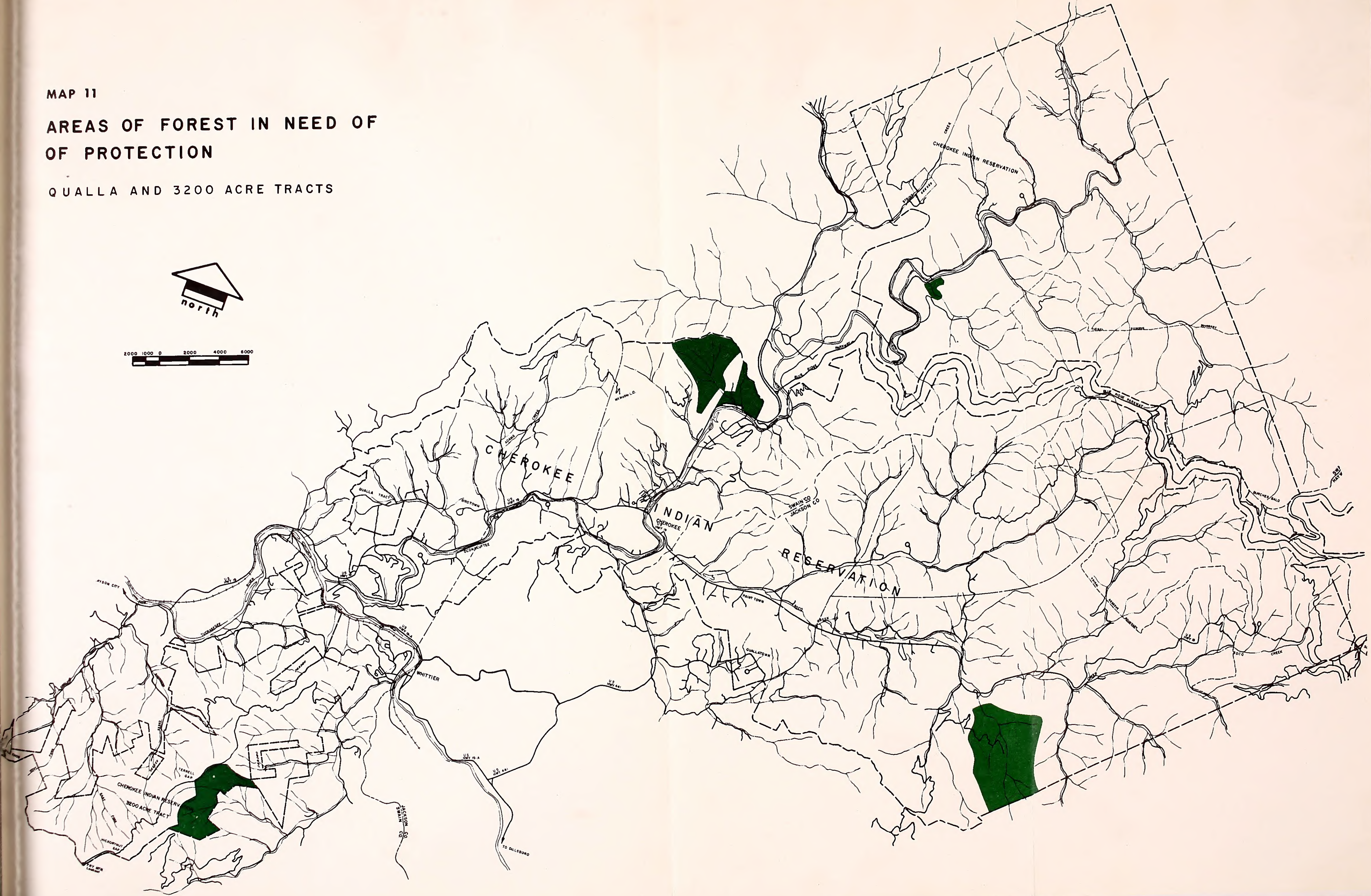
AREAS OF FOREST IN NEED OF OF PROTECTION

QUALLA AND 3200 ACRE TRACTS



as presumed since the greenery in Cherokee covers logging debris rapidly and a tourist can hardly identify a logged area two years later, and secondly, somewhat of a hassle would probably result if local residents were told "no logging" because of aesthetic reasons. This latter reason might be overcome with a strong Council stand, but the first reason seems sufficient to go ahead on these areas when logging is feasible.

Trout Industry Development

It has been said that our next crisis will be a food crisis. Experts predict that by 1984 we will not be able to feed the world's population. Many believe that mariculture represents an untapped source of production of protein foods and that an increasing share of the world's human protein needs will come from pond culture. These facts point to a tremendous growth in the rainbow trout industry and to many opportunities for those wishing to become involved in the industry.

In order to raise trout there are two main resources needed - water and land. The Cherokee Indian Reservation is an excellent location for a trout production operation because of the high quality and quantity of water which flows through the Reservation.

The following is a brief discussion of the land and water resources and their relationship to a commercial trout production operation at the Cherokee Reservation:

I. The Water Resource

For 52 years, stream flow data has been recorded by the United States Geological Survey and the Tennessee Valley Authority at a gauge site located on the Oconaluftee River in the Birdtown Community. This gauge recorded stream flow for an area of approximately 184 square miles. In 1968 a gauge was built on the Raven Fork River above Cherokee. This gauge recorded stream flow on a 72 square mile area.

The areas best suited for a trout production operation in terms of water quality would be those areas which are above "enterprise fishing waters." These areas would not have hatchery fish stocked in them and the chance of the fish obtaining diseases from other stocked fish would be at a minimum.

Based on the water flow data recorded by the Birdtown gauge, it was estimated that 20% of the flow came from the Raven Fork River above "enterprise waters." It is also estimated that 20% comes from the Straight Fork River. These two rivers provide two of the best areas to locate a production operation.

Flows in the Raven Fork River are as follows:

Raven Fork River Flows, Average Mean, Monthly Flows In CFS
(CFS = Cubic Feet Per Second)

January	114.57	July	65.48
February	140.70	August	59.59
March	146.25	September	42.14
April	120.10	October	40.97
May	83.72	November	56.45
June	65.97	December	92.86

(Flows for the Straight Fork River would be about the same as the above flows.)

As a general rule it is possible to raise two pounds of fish per cubic foot of water. At this rate, in order to raise one million pounds of fish 500,000 cubic feet of space would be needed. It would take 3,750,000 gallons to fill this much space. In a hatchery water can be re-used up to three to four times.

In order to raise one million pounds of trout and re-use the water three times - 1,250,000 gallons of water would be required. Then if the water was changed at least once each hour in each 100' x 8' x 2' raceway, a flow of .44 CFS would be required. Therefore, if you had 200 raceways, 88.57 CFS of flow would be required. If the water was changed three times per hour; two changes per hour would require 44.28 CFS of flow; and one change per hour would require 29.52 CFS flow.

From the above figures and the mean monthly flow data it is possible to determine that enough water is available from the Raven Fork and Straight Fork Rivers above "enterprise waters" to grow one million pounds of fish.

II. The Land Resource

The greatest drawback to an intensified trout production program on the Cherokee Indian Reservation is the lack of suitable sites upon which to locate a facility. Most of the level land is located near the streams and is subject to periodic flooding. This same land is also very valuable for other land development uses.

Based upon a figure of two pounds of fish per cubic foot of water, 500,000 cubic feet would be needed to raise one million pounds. Standard raceways are 100 feet long, 8 feet wide and 2 feet deep, or contain about 1,600 cubic feet, making a total of 312 raceways that would be needed or about 5.73 acres for raceways alone. Considering the needed walkways and service roads, about 10 to 15 acres would be necessary.

If a silo culture technique is used, much less land area would be required. This is a new method and additional information should be obtained since it would probably be the best method for the Cherokee Reservation due to the lack of suitable sites.

Because of the lack of any holding and processing plant in the area, a successful trout production operation would require construction of such a facility. A holding and processing plant would require an additional 8 acres making a total of 23 acres minimum to meet the needs of a viable trout industry.

Trout production need not be limited to the previously described areas of the Raven Fork and Straight Fork Rivers. The following map indicates there are 12 major sites shown that should be considered for trout production. There are numerous other minor sites (not shown on the map) that could be utilized by the underemployed for supplemental income. The major sites should be set aside and protected for future trout industry development. (See Map Number 12.)

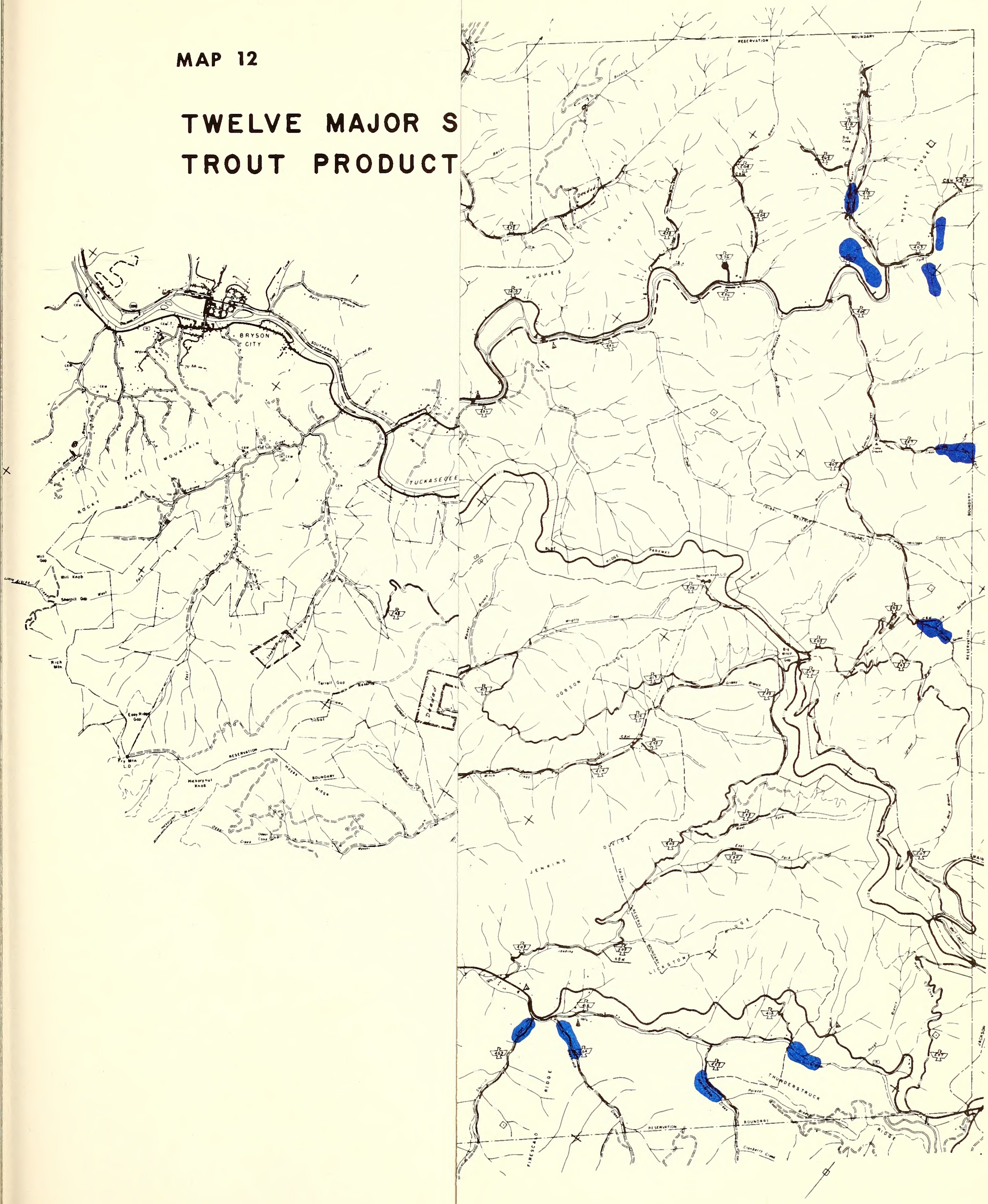
Environmental and Technical Considerations

Physical and chemical parameters important to the productivity of trout streams include temperature, dissolved oxygen, water clarity and substrate characteristics. Temperature is generally the most critical parameter; and maximum weekly average during the summmer should not exceed 66°F, with short-term maximums for survival of 73° to 75° for brook and rainbow trout respectively. For optimum production, oxygen should be maintained at natural levels. Potentially severe effects of turbidity and siltation require that every effort be made to keep mineral solids from reaching a watercourse.

High-quality, natural trout streams are characterized by low water temperature, high water transparency, high dissolved oxygen

MAP 12

TWELVE MAJOR S
TROUT PRODUCT



Trout production need not be limited to the previously described areas of the Raven Fork and Straight Fork Rivers. The following map indicates there are 12 major sites shown that should be considered for trout production. There are numerous other minor sites (not shown on the map) that could be utilized by the underemployed for supplemental income. The major sites should be set aside and protected for future trout industry development. (See Map Number 12.)

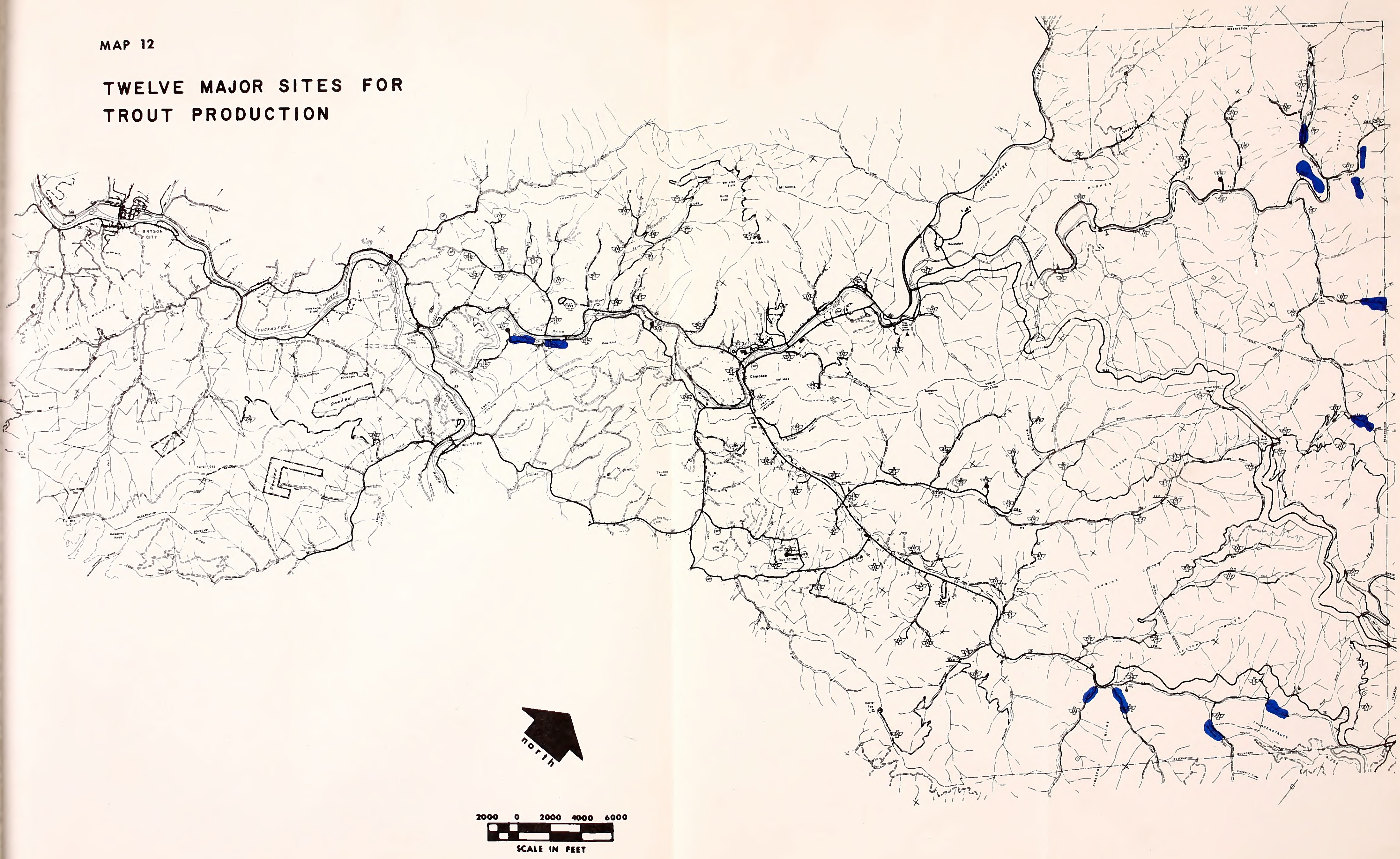
Environmental and Technical Considerations

Physical and chemical parameters important to the productivity of trout streams include temperature, dissolved oxygen, water clarity and substrate characteristics. Temperature is generally the most critical parameter; and maximum weekly average during the summmer should not exceed 66°F, with short-term maximums for survival of 73° to 75° for brook and rainbow trout respectively. For optimum production, oxygen should be maintained at natural levels. Potentially severe effects of turbidity and siltation require that every effort be made to keep mineral solids from reaching a watercourse.

High-quality, natural trout streams are characterized by low water temperature, high water transparency, high dissolved oxygen

MAP 12

TWELVE MAJOR SITES FOR TROUT PRODUCTION



concentrations, and by sufficient accessible areas of clean, unsilted substrate to allow reproduction of native and/or salmonid species.

Each of the above parameters may be readily altered by perturbations resulting from man's activities; and consequently, trout streams are among the most sensitive ecosystems with which resource managers and regulatory agencies must cope. Among the activities which may seriously disrupt trout streams may be included:

Mining
Road Building
Deforestation
Channelization
Dam Construction
Oxygen-demanding Industrial and Domestic Wastes
Heated Wastes from Industry
Turbid Wastes from Industry
Dredging
Irrigation

According to the "Rules, Regulations, Classifications and Water Quality Standards Applicable to the Surface Waters of North Carolina," the rivers and streams on the Qualla Boundary of the Cherokee Indian Reservation come under Class "C" waters with the following limitations:

a. Best Usage of Waters: Fishing, boating, wading and any other usage except for bathing or as a source of water supply for drinking, culinary or food-processing purposes.

b. Conditions Related to Best Usage: The waters will be suitable for fish and wildlife propagation. Also, suitable for boating, wading, and other uses requiring waters of lower quality.

Quality Standards Applicable to Class C Waters

	Items	Specifications
a.	Floating solids; settleable solids; sludge deposits.	Only such amounts attributable to sewage, industrial wastes or other wastes as will not, after reasonable opportunity for dilution and mixture of same with the receiving waters, make the waters unsafe or unsuitable for fish and wildlife, or impair the waters for any other best usage established for this class.
b.	pH.	Shall be normal for the waters in the area, which generally shall range between 6.0 and 8.5, except that swamp waters may have a low of 4.3.
c.	Dissolved oxygen.	Not less than 6.0 mg/l for natural trout waters; 5.0 mg/l for put-and-take trout waters; not less than a daily average of 5.0 mg/l with a minimum of not less than 4.0 mg/l for nontrout waters, except that swamp waters may have lower values if caused by natural conditions.
d.	Toxic wastes; oils, deleterious substances; colored or other wastes.	Only such amounts, whether alone or in combination with other substances or wastes as will not render the waters injurious to fish and wildlife or adversely affect the palatability of same, or impair the waters for any other best usage established for this class.
e.	Organisms of coliform group.	Fecal coliforms not to exceed a log mean of 1,000/100 ml (MPN or MF count) based upon at least five consecutive samples examined during any 30-day period; nor exceed 2,000/100 ml in more than 20% of the samples examined during such period. (Not applicable during or immediate following periods of rainfall.

f. Temperature.	Not to exceed 5°F. above the natural water temperature, and in no case to exceed 84°F. for mountain and upper piedmont waters and 90°F. for lower piedmont and costal plain waters. The temperature of natural trout waters shall not be significantly increased due to the discharge of heated liquids and shall not exceed 68°F.; however, the temperature of put-and-take trout waters may be increased by as much as 3°F. but the maximum may not exceed 70°F.

According to the *Development Document for Proposed Effluent Limitations Guidelines and New Source Performance Standards for Fish Hatcheries and Farms* by the United States Environmental Protection Agency, guidelines have been developed which divide the fish hatcheries and farming industries into three basic categories, and propose effluent limitations for compliance with the July 1, 1977, "Best Practicable Control Technology Currently Available (BPCTCA)" requirements and the July 1, 1983, "Best Available Technology Economically Achievable (BATEA)" requirements.

The development document proposes the following levels of pollution abatement;

(1) *Native Fish Flow-Thru Culturing Systems*

- a. BPCTCA - Vacuum cleaning of culturing units or sedimentation of their cleaning waste flow.
- b. BATEA - Sedimentation of entire waste flow with sludge removal.

(2) *Native Fish Pond Culturing Systems*

- a. BPCTCA - Settleable solids reduction through controlled discharge of pond draining waters.

b. BATEA - Settleable solids reduction through controlled discharge of pond draining waters.

(3) Non-Native Fish Culturing Systems

a. BPCTCA - Land disposal with no discharge of pollutants to surface waters.

b. BATEA - Land disposal with no discharge of pollutants to surface waters.

New source performance standards for all three categories are the same as the 1983 BATEA requirements.

Review of the development document by the Water Quality Division (EPA) brought forth only one comment which raised the question as to whether or not the 1983 requirements for the native fish flow-thru culturing systems should require sedimentation of the entire flow. Because of the small concentration of pollutants present in the water except during the cleaning period, it is questioned whether or not the cost represented by this requirement is justified in terms of the pollution abatement achieved.

Cemetery Development

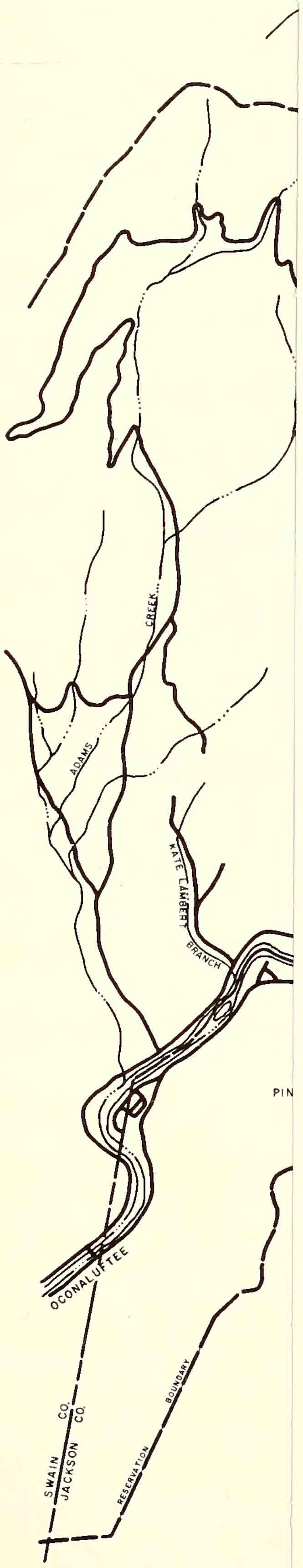
The most nearly permanent land use is that use for interment of the dead. Permanence of the cemetery as a land use makes decisions regarding it unusually important. A building can be expected to outlive its usefulness in two or three generations and if there is a civic necessity for the removal of a building, the procedure is comparatively simple, although the cost may be high. This is not true of a cemetery. Not only will the cost be excessive, but legal obstacles can very well make removal impossible. As a general rule, the land of a cemetery is reused for this or another purpose every 300 years.

If the policy of "perpetual care" were followed far enough, we should eventually use all our land for the interment of the dead and have no land left for the living. While this is not likely to come about, we have already reached the point at which distribution of land between the living and the dead is a serious problem.

Cherokees today, practice the Christian form of funeral service and interment but in times past, in each town there was one man appointed to bury the dead. This man came to the house of the deceased and buried the corpse. The most ancient custom was to bury the corpse in the house directly beneath the place where the person died, except in the case of a distinquished chief, and in this case he was buried under the seat that he usually occupied in the council house. When the corpse was not buried in the house, the undertaker took the body and carried it himself to the place of interment, followed by the relations. Sometimes the corpse was laid by the side of a huge rock, covered over, and then stones heaped on. Sometimes a grave was dug in the earth. Frequently the whole of the clothing of the deceased was buried with the corpse. The introduction of the modern house with floors has led to the practice of burying the dead in family cemeteries, each family having their own. A family cemetery is usually located on a high place behind the house. Most family cemeteries are located on such rough and steep terrain as to cause great difficulty in carrying the casket to the grave.

For an example to give some idea as to the number of family cemeteries on the Reservation, we have taken the Painttown Community Map and located those family cemeteries that are readily known. There are at least 23 in this community alone, (Map Number 13). On the whole of the Reservation, there exists only one cemetery that could be considered public and it is located in the Birdtown Community. Because the family cemeteries are located on possessory holdings, present no health or other adverse conditions and are usually on such rough or steep terrain that the land is unsuitable for other uses; we will primarily direct our planning efforts to the one public cemetery in Birdtown and possible alternatives.

Is a cemetery needed at all? Considering that there are at minimum 100 family cemeteries and if each one consisted of 1/10 of an acre and they were all half full, then there would be five acres available for future burials. At the rate of 620 burials per acre, this five acres would accommodate 3,100 deaths. Considering the current annual North Carolina death rate of 15.7 per 1,000 - then from the year 1976 through 2020, the Eastern Band of


CREEK
ADAMS
KATE LAMBERT BRANCH
PIN
OCONALUFTEE
SWAIN CO.
JACKSON CO.
RESERVATION BOUNDARY

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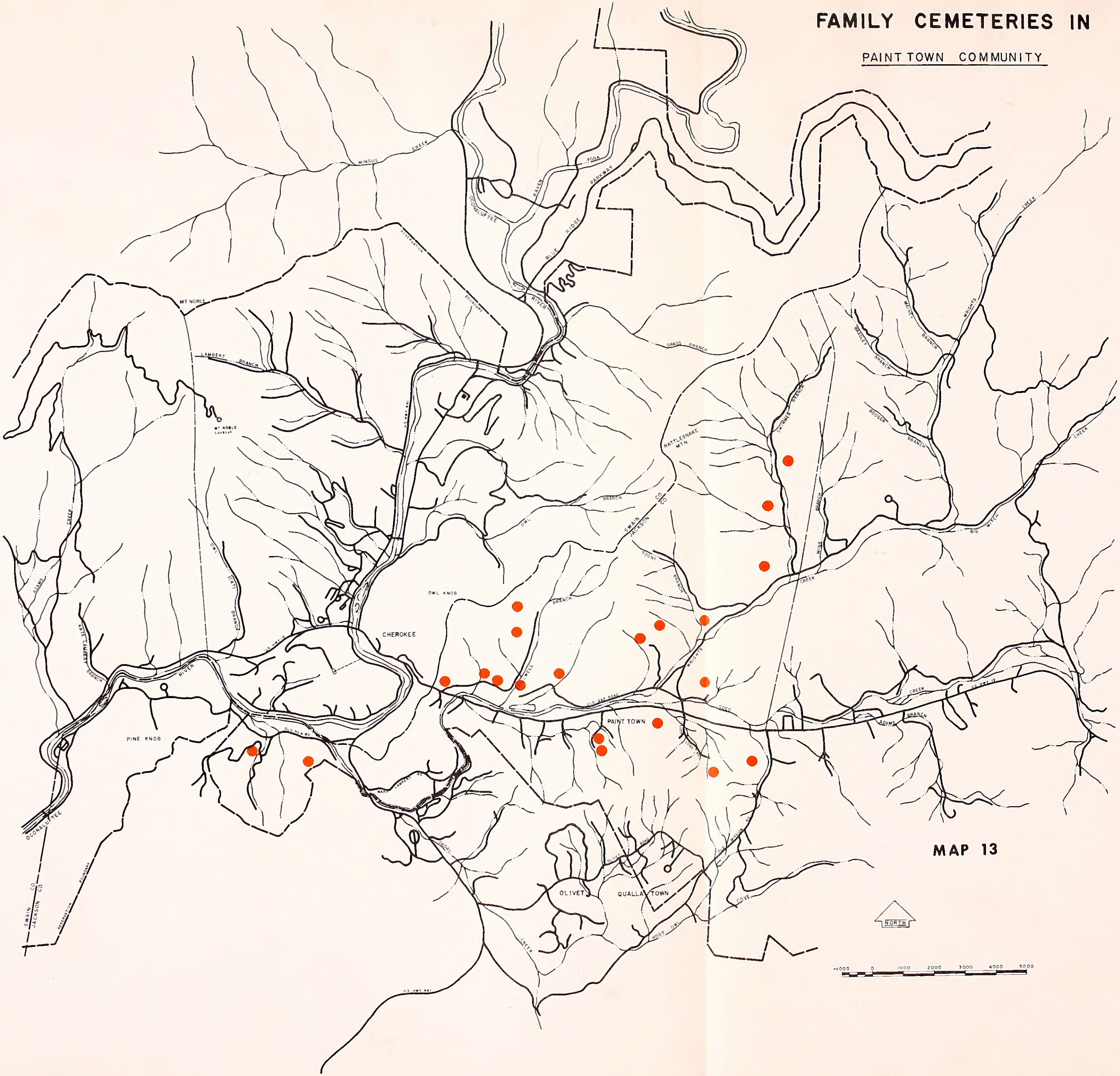
FAMILY CEMETERIES IN

PAINT TOWN COMMUNITY



MAP 13

Cherokee Indians will need to provide space for 5,647 burials or space totalling 9.11 acres. If family cemeteries accommodate 3,100 burials (5 acres) then planning should be accomplished for 2,547 burials which would require 4.11 acres. Within the metes and bounds of the Birdtown cemetery there is about one to two acres which is nearly full. The adjoining land would be ideal for expansion but appears to be issued in possessory holdings. The Tribe would first have to negotiate with the possessory holders for additional land before expansion could occur. We have not been successful in discovering any other areas that would be suitable for a cemetery, where access is adequately provided and where the threat of vandalism would not be present. Land shortage and the intensified demands on the usable land of the Reservation causes us to look at the possibilities of a multiple use cemetery.

Active Recreation

Bicycling - At the present time, there are no areas on the Reservation suitable for or set aside to be used by the bicycle enthusiast. The highways and roads are overly congested with narrow shoulders that have but a minimal area for pedestrians and provide no room for bicycle paths, (or even sidewalks in many areas). A memorial park set aside in a wooded area with bicycle paths could serve a dual function of compatible uses. Bicycling would be safe and by following the trend of the more aesthetically pleasing memorial concept, where markers are set flush to the ground, also makes for more pleasant views for bikers. In the case with the Cherokees with their rich culture and background, a short story about each person interred that was mounted on a nearby tree or rock would serve even another purpose; that of preserving history for future generations and for the interested visitors to Cherokee.

Fishing, Swimming and Ice Skating - A number of cemeteries, especially the newer memorial parks, are constructed with small lakes or lagoons. While traditionalists might want to reserve these as focal points for reflection and contemplation, some of the more progressive cemeteries are allowing various recreation activities to take place. A trout pond in Cherokee would serve a similar type multiple use but should be planned along the memorial park theme.

Baseball, Football and Related Sports - Many old cemeteries have had the markers removed and the areas are now being used as fields for active sports in many cities of the country. While the removal of markers would not be accepted with the Cherokees, the grassy areas around the athletic fields would be excellent for memorial burials, particularly for those who at one time in their life excelled in sports or who contributed exceedingly to an athletic program.

Golf Courses - The maintenance considerations are about the same for golf courses and cemeteries. Since there would be no additional expense to maintain areas used for cemeteries or memorial parks, it would seem most practical to utilize the side areas and wooded portions of a golf course for memorial park purposes. Proper design and regulations would eliminate any intrusion of one use into another. Because a golf course requires such a large amount of land, this type multiple use is highly recommended.

Passive Recreation

Historic Attractions - The potential to combine historic preservation and cemeteries is almost unlimited. In some cases, entire cemeteries become historic and tourist attractions. There are a number of reported innovations in historical attractions, Crown Hill Cemetery in Indianapolis has special pavement stripping to help visitors tour the grounds and see the graves and memorials of Indiana governors and former U. S. Presidents.

The emergence of the memorial park design, which often features some central display or memorial surrounded by a number of grave markers flush with the ground, has opened the door for historical emphasis in cemeteries, whereas in older cemeteries historical objects and features may become lost in a maze of cumbersome individual and family grave monuments.

Arboretums, Tree Nurseries, Nature Trails and Botanical Gardens - Special arrangement of traditional monuments and plantings plus several small lakes draw many visitors to picturesque old cemeteries. There are a number of old cemeteries which have instituted a marking program for trees, shrubs, and plantings, enabling visitors, garden clubs, school children and others to spot various species. Some cemeteries distribute pamphlets describing the trees, plants and wildlife found on their grounds to help visitors identify and enjoy these attractions.

Problems to avoid with cemeteries:

1. Excessive number of monuments, poorly placed, poorly maintained and poorly designed.
2. Excessive roadways and alleys with varying widths and poor surfacing.
3. Poor maintenance of graves and lawns, and sunken graves.
4. Hodge-podge of landscaping and planting because of a lack of plan and central control.
5. Poor and inefficient lot layout and design.
6. Abandoned lots and under-utilized lots.
7. Lack of maps and burial records.
8. Lack of or poor administration.

Distribution of Land Use in a Typical Cemetery:

Roads - 10 to 15 percent
Paths - 10 to 12 percent
Lakes - 3 percent
Lots - 70 to 77 percent

Housing Development

Research into the factors of the Eastern Band of Cherokee Indians that relate to the planning program reveals the present land shortage to be the most severe of all problems. It is a problem that will increase with dynamic intensity with the years to come.

The Eastern Band of Cherokee Indians has a total of 56,572.80 acres of which 49,784 acres (or 88 percent) is in forest (land unfit for other general purposes) leaving only 6,789 usable acres for homes, businesses, roads, schools, farms and etc. About half the usable acreage (3,063 acres) is currently used for roads, business, industry, government, social and cultural, recreation, utilities and landfill, churches and agriculture. Of residential land uses, both possessory and leased, there is approximately 1,857 acres currently being used, leaving 1,869 acres for future development in all the categories listed above. Most of this "vacant" land is in the valley areas and can be expected to develop into commercial and other non-residential land uses if the present trend toward a tourism economy continues, leaving little if any room at all for housing. We can even expect much of the present valley residences to relocate to higher ground as the value of flat land climbs with new demands for business to accommodate the touring public.

There is presently about 5,550 enrolled Cherokees living on the Reservation with an additional 450 to 500 Non-Indians and Indians from other tribes which amounts to a total of approximately 6,000 residents. Considering the average number of occupants for all American households to be 3.2 we can see that Cherokee should have a housing count of 1,875 when in reality there are only 1,263 indicating a shortage of

612 housing units.

In 1960, the Bureau of Indian Affairs conducted a housing study which reflected a fact that over 95% of the houses at that time were either deteriorating or dilapidated. Since the time of this survey, the Eastern Band of Cherokee Indians, through the Qualla Housing Authority initiated a housing program with the U. S. Department of Housing and Urban Development. This massive housing program has accomplished to date:

36 low cost rental housing units are completed
277 mutual help homes have been completed
200 mutual help homes are under construction
175 mutual help homes have been applied for
25 units for the elderly have been applied for (HUD)
65 units for middle income rental have been applied for (HUD-236
778 total units

Another contributor to the housing accommodations in Cherokee is the influx of mobile homes of which there are 244 - this number represents 19 percent of all housing units which is a very high ratio compared to the national figure whereby mobile homes make up 3 percent of the total housing supply.

Although the Cherokees, along with the help of HUD, have done much toward satisfying their housing needs, pressure will continue for additional units for a long time to come.

Overcrowding is a condition that exists in Cherokee and contributes to the housing problems. Since this is a major negative element that needs to be eliminated, instead of using the current Cherokee occupancy rate of 4.2, to forecast the housing needs, we will use the figure of 3.2 which is the average number of occupants for all American households.

According to population projections from 1970 to the year 2020, the Eastern Band of Cherokee Indians will need to provide an amount of 47 housing units per year to accommodate the population increase. This amounts to 469 units every 10 years which if further broken down by county:

County	Number of houses needed every 10 years till the year 2020
Cherokee	9
Graham	38
Jackson	178
Swain	244
Total	469

This means that between the years 1975 and 2020, in order to accomodate the growing population on the Reservation 2,111 housing units will need to be constructed. If the housing shortage of today (612 units) were added to this total, the amount would rise to 2,723.

Considering now, the number of acres needed to accommodate the housing supply, we first must look at the mode of Cherokee life which is in essence a land base society that lives close to nature and natural amenities. It is currently unthinkable to stack the living Cherokees in such things as high rise apartments; each family looks for space to live and grow a garden - an assumed, inherent right. However, the space we are speaking of is rapidly being consumed in business related land uses. Minimum requirements of land space by Cherokee standards for each housing unit is one acre. This is supported by being the same minimum requirement of acreage for each mutual-help house. At the rate of a minimum of one acre for each housing unit 1,875 acres are required for present day needs and 2,111 additional acres will be needed for housing from 1975 to the year 2020, making a total of 3,986 acres.

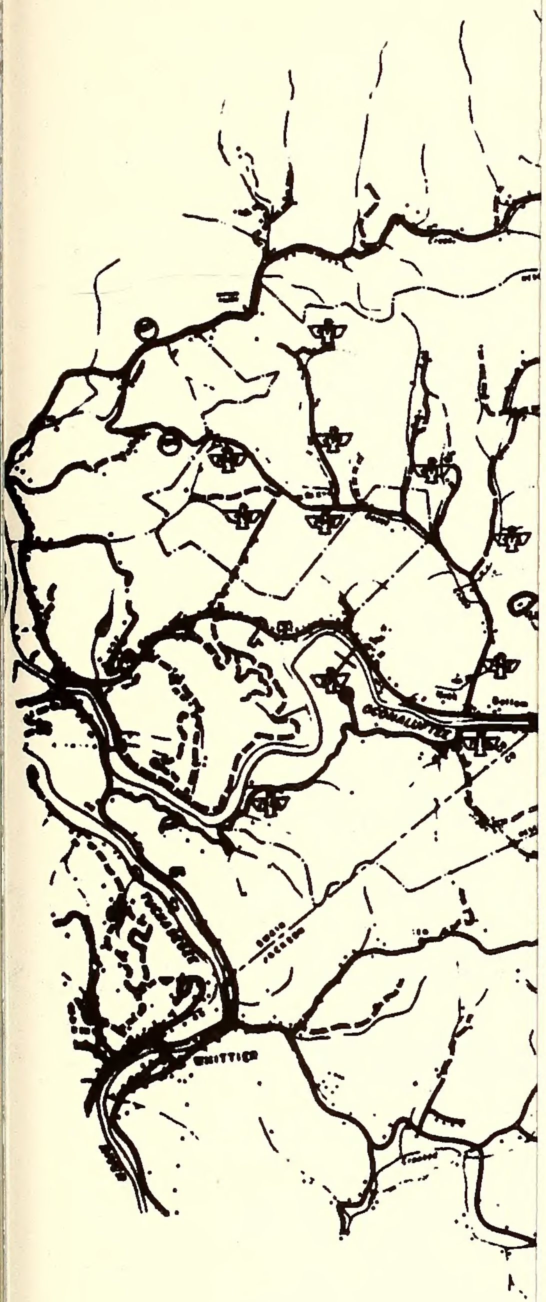
The 2,831 enrolled Eastern Cherokee Indians residing off the Reservation must not be overlooked, as this group has every right to return to the Reservation and establish residence thereon. Not only is this a possibility but has materialized into an actual trend increasing in numbers each year. We have accounted for a portion of the "returnees" in the population projections (Table #3) where an in-migration factor was built in to cover not only this element but other factors which are described in Chapter 2.

Population density for the total Reservation area is presently 68.18 per square mile. By the year 2020 it is expected to reach 145.8 which if compared to North Carolina's most populous area, Mecklenburg County which has a density of 654.3 per square mile, assures some freedom in the Cherokee life style, but not without many constraints. The population density of the total United States is a present comparative rate of 57.5 per square mile.

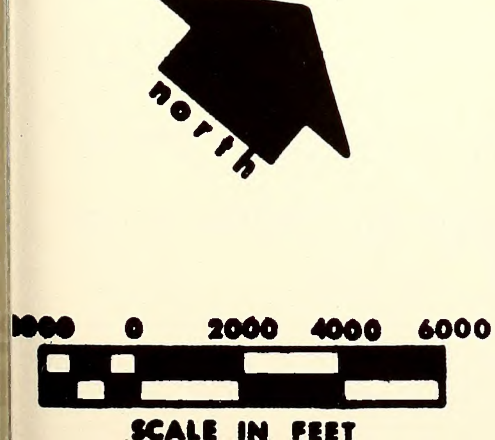
The question proposed for solution is, "where and how to locate Cherokee's housing needs?" We requested of the Bureau of Indian Affairs through the following persons for technical assistance in answering these questions:

Jeff Muskrat, Superintendent
John Gloyne, Forestry Technician
Fred W. Brown, Supervisory Soil Conservationist
A. Ronald Thurman, Housing Development Officer
James Doyle Maxwell, Supervisory Highway Engineer
Mollie G. Blankenship, Realty Officer

The conclusions of this group were that there existed some locations on Tribal Reserve that would be suitable for housing development if access roads were constructed. These areas are shown on Map Number 14 and for the purpose of identification will be called:


OCONALUFTEE
WHITTIER
SWAIN
JACKSON

MAP 14


north
000 0 2000 4000 6000
SCALE IN FEET

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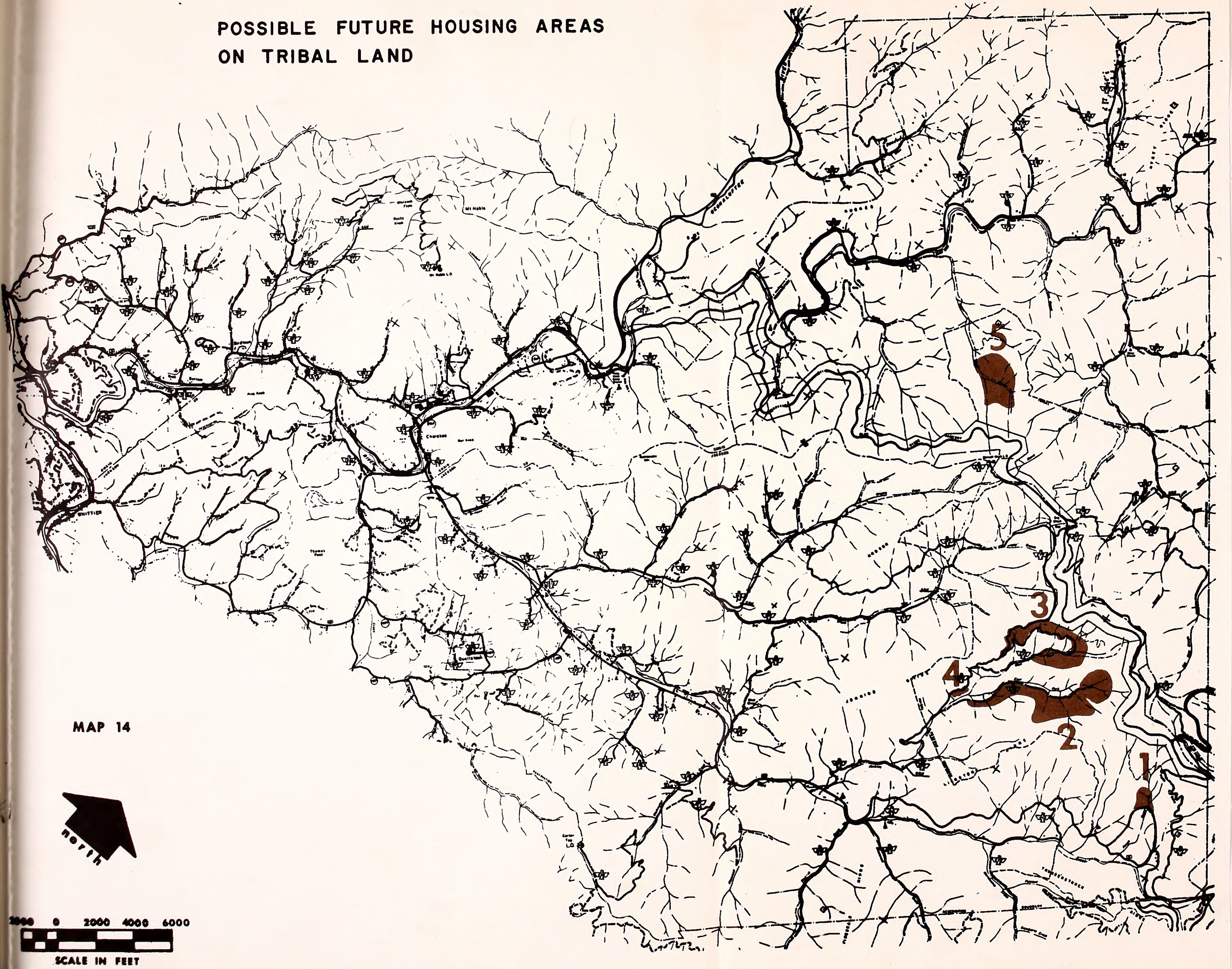
POSSIBLE FUTURE HOUSING AREAS ON TRIBAL LAND



MAP 14

1. Rough Branch Tract
2. East Fork of Jenkins Creek Tract
3. West Fork of Jenkins Creek - North Tract
4. West Fork of Jenkins Creek - South Tract
5. Pigeon Creek Tract

A very rough visual estimate is that these five areas would accommodate approximately 400 to 500 housing sites figured at approximately 1.67 acres each. Due to the adverse terrain of these areas, a larger acreage per home would be required than the estimated one acre on flat land. Even then, the terraced garden technique would have to be applied in many areas. The largest drawback in opening up new areas for housing is the high cost of road construction; approximately $150,000 per mile. While this first appears out of line, when considering the characteristic step terrain of the Qualla Boundary; underground springs that are common and exist nearly everywhere, requiring drain tile in large amounts; greater than normal expense in road-bed preparation; and finally the pavement, all added to the rising costs of material and labor - by the time these areas are opened up, the estimated $150,000 per mile for a 20' wide road will be grossly inadequate.

These five areas are all sufficiently served by natural springs that flow year-round with cool, clear and pure water. While the sewage treatment lines cannot economically be extended to these outlying areas, the use of a central sewage facility in the form of a large septic tank has worked efficiently in other sub-division type developments on the Reservation. Another alternative would be a package plant facility. There are a few of these plants being used in Cherokee now - one serves a campground and two others serve a motel complex each. Cost and maintenance though may prove to be more than the system would warrant without a huge number of users.

We know from experience, however, that the central septic tank system is not only feasible but is also economical and avoids water supply contamination from drain field seepage, the latter being installed at a lower altitude than the various water supplies. This type of problem is difficult to avoid when there is a high density on mountain terrain and each resident has his own septic tank and drain field.

Much needs to be done in the revision of site plans and house plans. To mention one problem occurring with the mutual-help houses, car ports are often built where it is impossible to get a car to them. Planners at a drawing board assume all land is flat and therefore it matters not which side of the house the garage or car port is drawn. In reality, house seats in Cherokee are literally carved out of a mountainside with usually just enough room to fit the house on the site and only one means of ingress and egress, also carved out of the mountain with no room to spare. Consequently if the carport is put on the opposite side of the house from the access road it is utterly impossible for it to be used for its intended purpose.

House plans need to be redesigned to be blocked up instead of bulldozing out the house seats. A longer, narrower house set up on steel, concrete or treated timber pilings with the basement and/or garage underneath would greatly facilitate the suitability of house to terrain.

A recently recognized housing need with special requirements is housing for the senior citizens. We have, therefore, included the following checklist for the purpose of aiding those with the responsibility of choosing possible sites for housing units to serve this age group:

Housing for the Elderly Checklist

Basic Psychological and Sociological Principles:

1. People in this age group usually do not want to break their ties with family and neighborhood and be placed in new and foreign environment.
2. They need activities, not merely hobbies, and they want to participate in community functions.
3. The objectives, programs and physical facilities for the housing of the aged should encourage and support the continuance of earlier patterns of living, daily routines, personal care habits, social contacts and recreational activities.
4. An important objective is to maintain independent living as long as possible.

Need for Greater Number of Housing Units for the Elderly:

1. The life-span of mankind has increased through advances in medical science; thus the proportion of older people in the population has increased.
2. With the passing of the three-generation household, more elderly persons are living by themselves and therefore require separate housing accommodations.

Neighborhood and Site:

1. It should be basically residential.
2. It should possess the normal range of community facilities.
3. Have convenient public transportation.
4. Be removed from particularly objectionable land uses.

5. To the aged person, the ideal neighborhood is often the one in which he has lived most of his life.
6. Selection of a particular site should give consideration to old established neighborhoods where many of the aged are likely to be living and have their roots.
7. The topography should be as level as possible to minimize the need for steep walks, ramps, or stairs. Relatively level sites encourage walking - a highly desirable exercise.
8. The site should not be bounded on all sides by major traffic arteries. It should be possible to go shopping without having to cross a major street.
9. Essential commercial facilities should be close at hand and easily accessible - grocery stores, laundromat, post office, dry goods stores, and the like.
10. Basic community facilities such as churches, libraries, health services, and recreation facilities should also be close at hand. A half-mile is the maximum walking radius of many aged persons.
11. Transportation should be immediately available at the site, since many of the services that the aged require, such as medical attention, will in all likelihood be located elsewhere. Transportation is also important for obtaining part-time work, visiting relatives or friends, and generally for maintaining a spirit of self-sufficiency.
12. The site should not be immediately adjacent to a school building or a children's playground, or an active recreation area used by teenagers or adults.

13. The site should be large enough to permit the development of adequate outdoor areas for both active and passive recreation.
14. Consideration should be given to possible changes in the over-all land use pattern, in terms of probable trends and projected plans.

Recreation Development

Recreation is the process whereby people renew and refresh themselves by pleasant activities, amusements, and entertainments both physical and mental. For the well-being of a civilized society, recreation is essential and therefore one of the functions of planned development for any local entity.

One might think that in this country where the suburbs are characterized by low-density and great areas of wide open space for family outings and hobbies that the demands for outdoor recreation outside the home would be substantially reduced. On the contrary, American households show a much larger rate of participation in most active forms of recreation outside the home entirely, reflecting the combined operation of such factors as higher incomes, higher personal mobility, and higher educational levels. In addition, suburbanites as a whole are more active in active recreation than either central city or rural people.

Outdoor recreation activities fit into three general categories that depend upon when and how they can be used:

1. Nearby parks and playfields, primarily for use during daily leisure or for simple weekend activity. A playground for small children must usually be within a half-mile of where they live; other kinds can be farther, but all must be within a fairly close radius. The tracts of land are small - a few acres or less.
2. Areas suitable for day-long or weekend outings. Most of these areas should be within several hours traveling time. Outdoor recreation activities in this group should be

located on the most attractive sites and preferably near some type of water body. Tracts of land should be larger (several hundred acres) and encourage mass recreation with a wide variety.

3. Outdoor recreation suitable for a vacation where more time can be spent in travel and preferably to an area where the travel itself is enjoyable enough to become a major part of the recreation. Some visitors to national parks travel as much as 2,000 miles or more one way just to visit the national parks. The most important characteristic of this type of outdoor recreation area is its natural features such as the mountains, ocean, lakes, etc. These tracts of land need to be very large (thousands or millions of acres).

Total visits to outdoor recreation areas have been increasing annually at the rate of 8 to 10 percent with no indication of slowing down.

Recreation on the Cherokee Indian Reservation must be developed to serve all three of the outdoor recreation groups described above and of equal importance, must serve many of the passive recreation needs of the same three groups. While Cherokee is in the heart of a major recreation, tourism and resort area, the Eastern Band of Cherokee Indians are not realizing their full share of the recreationa revenue available in the area and Tribal members complain of "nothing to do."

The only recent bona fide research into the recreation needs of the local residents and the touring public was conducted by Marguerite Merritt, a student intern attending Western Carolina University, who conducted a "Retail Market Survey" during the summer of 1973. Her findings were presented in a report form which we feel reflects the real recreation needs and problems that need attention. Using a simple tally method to quantify the responses received from questionnaires and interviews that relate to recreation and entertainment for this study, we made the following determinations - listed in order - the five most frequent answers, from the greatest number of responses to the least:

1. More of and higher quality recreation and entertainment facilities and activities are needed for the Indians and the tourists, particularly for evening hours.
2. Golf Course.
3. Bowling Alley.
4. Theatre.
5. Winter Activities (Ski Lodge had a high count, but was tallied under Industry and Business).

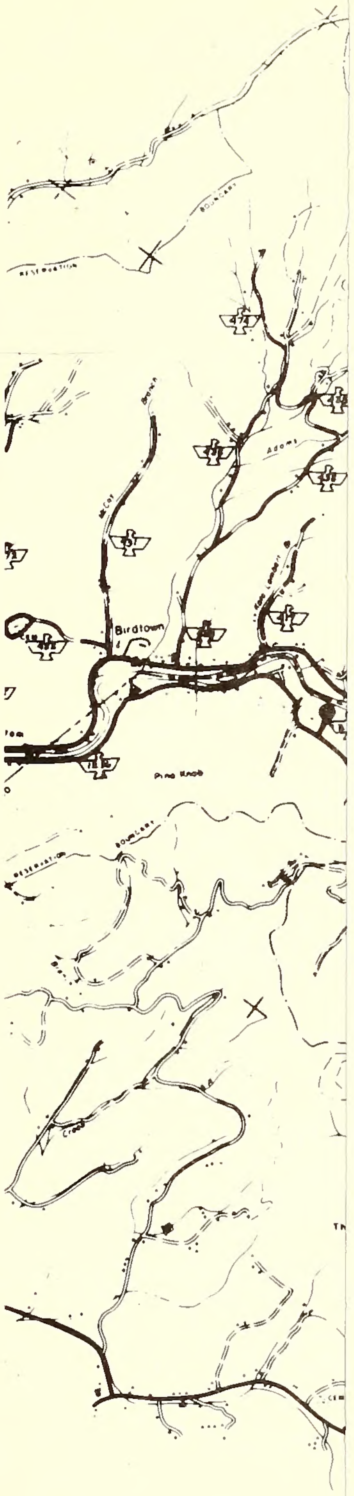
These five needs deserve the attention they are receiving by the Planning Board and Planning Staff whose concerted efforts along with Tribal administrative leaders will cause them all to become realities. Numbers 1, 3 and 4 do not require large tracts of land and can therefore be easily located in the Cherokee Village areas. However, numbers 2 and 5 require such large expanses that for the purpose of comprehensive planning, specific areas need to be reserved for each:

Number 2, Golf Course - The only area in the vicinity of the Qualla Boundary that is large enough for an eighteen hole course is the area known as "The Meadows." This area once belonged to the Cherokees but was lost to the National Park Service some years back. Since the Department of Interior refuses to relinquish this parcel of land, the Cherokees should request it in return the next time they are forced to sit at the bargaining table. (See Map #15).

Number 5, Ski Resort and Winter Activities - There is no doubt but what the Bunches Bald Area should be reserved for a winter activities area that would provide ski runs, ski lodge, scenic chair lift, ice skating, snowmobile runs, toboganning, snow play and an off-winter season nine hole golf course. (See Map # 15).

Another area that adds so much to the character and beauty of Cherokee and should not under any circumstances be developed for other than passive recreation is the Tribal owned (not issued in possessory holdings) areas of the Oconaluftee River that are shown on Map # 15. The only type of development that should be permitted in these areas is picnic tables, sidewalks, pedestrian bridges, public rest rooms, barbeque pits, lawn areas, decorative water fountains and uses such as outdoor Cherokee art displays all blending into a natural landscape with as little area as possible utilized for parking.

The most important of all areas that should be reserved for recreation, culture, and historic purposes is the Council Grounds area between the new museum and the Council House. The loss of this area for an athletic field in conjunction with the education facilities had a great deal to do with the loss of many of the Cherokee customs related to Cherokee culture. Construction of the long awaited and hard worked for new high school with a new


RESERVATION
BOUNDARY
Birdtown
Adams
Pine Knob
Creek

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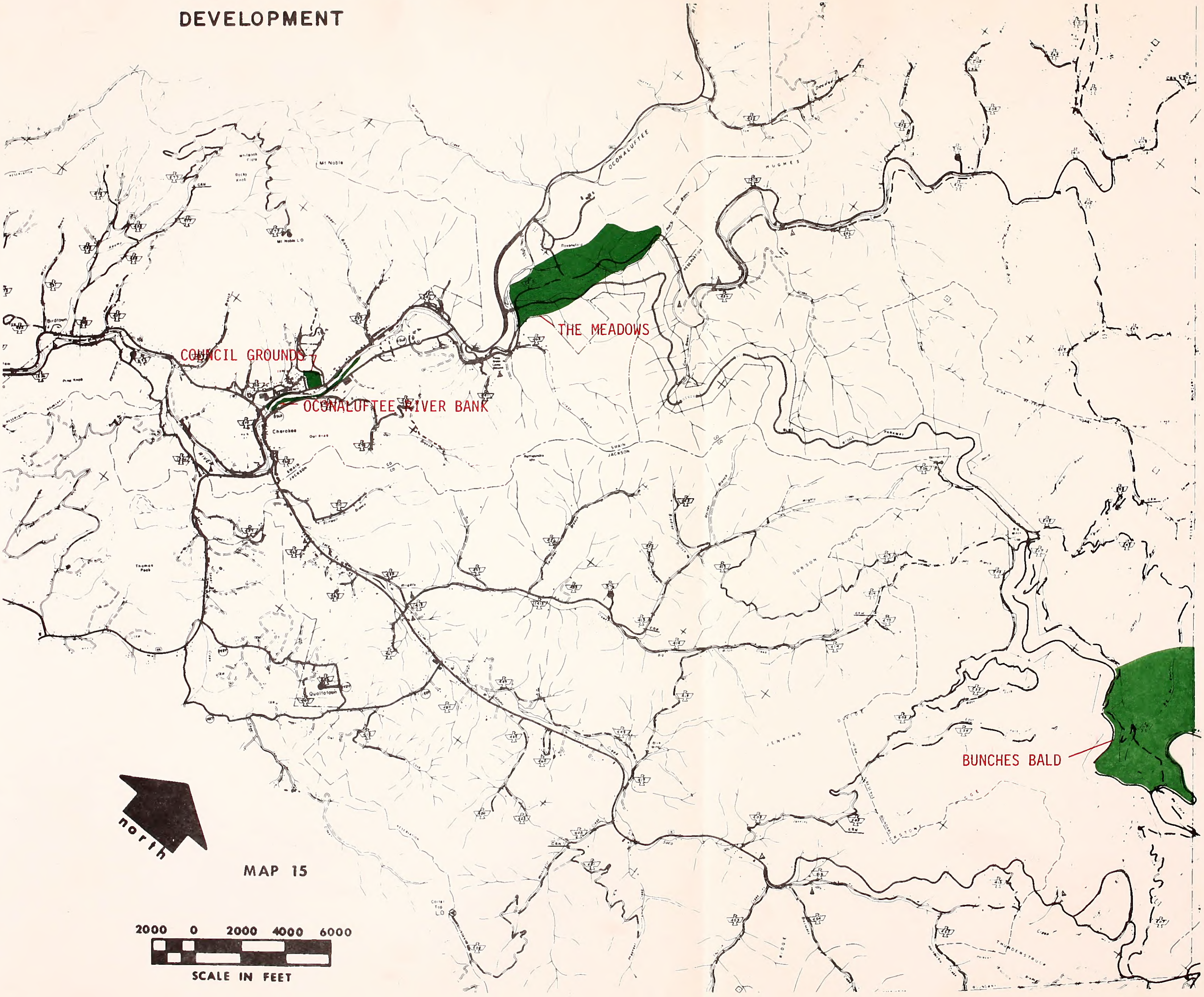
AREAS FOR RECREATION DEVELOPMENT



MAP 15

athletic field makes it possible for this specific piece of land to be "returned to the Tribe." This area is shown on Map #15. Many of the Cherokee customs and rituals are fading away because the land where they were performed was taken into other use. By restoring the land and with the help of the "Older Indians" and also the help of such persons as Richard "Geet" Crowe and his family, many of these vitally important activities can be revitalized.

Some of the "old" activities are as follows:

Dances - Ant, Ball, Bear, Beaver, Buffalo, Bugah, Chicken, Coat, Corn, Eagle, Friendship, Green Corn, Ground Hog, Horse, Knee Deep, Medicine, Partridge, Pheasant, Pigeon, Racoon, Round, Snake, War, and "Woman Gathering Wood".

Recreation - Cherokee Ball; Women's Football Game; Basket Game; "Arrows;" matches of various kinds such as archery, rock casting, pitching of stones and match hunts; various children's sports and others.

Education - Group instruction in magical formulas and prayers; instruction in the arts and crafts; and instruction in history, language and sports.

Ceremonial - A monthly ritual of purification; a ceremonial period which includes the months from August to November inclusive in which two agricultural and two purificatory ceremonies occur; two main moon festivals, the Cementation or Reconciliation Festival, two Green Corn Feasts, a Ramp Festival, and six greater festivals. The entire populace would meet at the National Heptagon or Council House in times past for feasting, ceremonies and social activities. Restoration of these activities needs to take place before they are all forgotten.

Classification of Public Areas (Parks)

National

Established areas administered by agencies of the Federal Government, and potential areas of national significance, have been classified in accordance with the following definitions:

National Parks - Spacious land areas essentially of primitive or wilderness character which contain scenery and natural wonders so outstanding in quality that their preservation intact has been provided for by their having been designated and set aside by the Federal Government to be preserved unimpaired for the benefit, enjoyment, and inspiration of the people.

National Monuments - Nationally significant landmarks, structures, objects, or areas of scientific or prehistoric interest so designated by the Federal Government for preservation and public use.

National Recreation Areas - Spacious areas selected, developed, managed, and conserved to provide broad public recreation opportunities which can best be provided by the Federal Government or where there is a Federal responsibility to conserve and develop recreation opportunities.

National Seashores - Natural coastal areas set aside for the preservation and public recreation use of their nationally significant scenic, scientific, historic, or recreation values, or a combination of such values. (The term "national lakeshores" has been used recently to designate similar types of proposed areas on the Great Lakes, and "national rivers" has been suggested in proposals to preserve free-flowing streams.)

National Parkways - Federally owned elongated parks featuring roads designated for pleasure travel, and embracing scenic, recreational, or historic features of national significance. Access from adjoining properties is limited and commercial traffic is not permitted. National parkways have sufficient merit and character to make them a national attraction and not merely a means of travel from one region to another. National parkways can be established only by acts of Congress.

National Historic Sites - Historic sites, buildings, or objects so designated in recognition of their national significance.

National Memorials - Structures or areas designated to commemorate ideas, events, or personages of national significance.

National Battlefields - Battlefields of national significance preserved in part, or in entirety, for the inspiration and benefit of the people.

National Wildlife Refuges - Areas administered by the Bureau of Sport Fisheries and Wildlife, designated for the protection and propagation of game animals, birds and fish, within which certain outdoor recreation facilities and activities are permitted as long as they do not interfere with the primary purposes of the refuges.

National Forests - Federal lands administered by the Forest Service, U. S. Department of Agriculture, under a multiple-use policy for outdoor recreation, range, timber, watershed, and wildlife and fish purposes.

State and Local

In formulating recommendations to establish any potential State, local, quasi-public and private areas, they should be classified in accordance with the definitions that follow. These are based on definitions adopted by the Board of Directors of the National Conference on State Parks.

Parks - Relatively spacious areas of outstanding scenic and wilderness character, oftentimes containing also significant historical, archeological, ecological, geological, and other scientific values, preserved as nearly as possible in their original or natural condition and providing opportunity for appropriate types of recreation where such will not destroy or impair the features and values to be preserved. Commercial exploitation of resources is usually prohibited.

Monuments and Historic Sites - Areas, usually limited in size, established primarily to preserve objects of historic and scientific interest, and places commemorating important persons or historic events. The facilities usually provided are those required for the safety and comfort of the visiting public, such as access, parking, water sanitation, interpretive devices, and sometimes facilities for picnicking and other recreation facilities.

Recreation Areas - Areas selected and developed primarily to provide nonurban outdoor recreation opportunities to meet other than purely local needs but having the best available scenic quality. Hunting and some other recreation activities not usually associated with parks may be permitted. Commercial exploitation of resources is usually prohibited.

Waysides - Relatively small areas along highways selected for their scenic or historical significance and providing opportunity for the traveler to relax, enjoy a scenic view, read a historical marker, or have a picnic lunch.

Wilderness - Areas to preserve primeval environment and devoted primarily to such wilderness types of educational and recreational uses as are consistent with the maintenance of the natural character of the area.

Nature Preserves - Areas, often limited in size, established for the purpose of preserving distinctive natural communities of plants and animals for their scientific and esthetic interest.

Beaches - Areas with frontage on the oceans, lakes, and streams designed primarily to provide swimming, boating, fishing, and other waterfront activities. Other coastal areas acquired primarily for the scenic and scientific values are included in the classification "parks."

Parkways - Elongated or "ribbon" parks featuring a motor road for noncommercial traffic, connecting parks, monuments, beaches, and recreation areas or otherwise affording an opportunity for pleasant and safe driving. Access and roadside developments are controlled. As an adjunct to the motor road, appropriate facilities such as turnouts, picnic areas, and other recreation developments are frequently provided where space permits.

Scenic Roads - Generally, rural highways, existing or proposed, located in areas having such highly scenic or cultural values that their further development for emphasis on safe and pleasant recreation motoring is justified, including facilities for interpretation of cultural features, for picnicking and camping and development of other recreation potentialities for the roadside.

Trails - Extended and usually continuous strips of land or water established independently of other routes of travel and dedicated, through ownership or easement, to recreational travel, including hiking, bicycling, horseback riding, or canoeing.

Free-Flowing Streams - Streams or portions of streams that are still unmodified by the works of man or that, in spite of such modification, retain natural scenic qualities and recreation opportunities. There must be provision for adequate protection against undesirable streamside developments, and for the preservation through public control of the existing character and quality of the adjacent landscape.

Forests - Areas established and managed primarily for timber production and watershed protection. Recreation is an increasingly important use.

Trailer Park Resort

Recommended Facilities

For Overnight Parks

1. Absolute Minimum:	Central travel trailer sanitary water stations & toilets.
2. Fair:	Individual electrical outlets, central travel trailer sanitary & water stations, and toilets.
3. Good:	Individual electrical outlets, central travel trailer sanitary & water stations, toilets and showers.
4. Better:	Individual electrical & water outlets, several individual sewer connections, one or more central travel sanitary station, toilets, showers and coin-operated laundry.
5. Best:	Individual electrical water & sewer connections, toilets & showers, coin-operated laundry and picnic tables.

For Destination Parks

1. Absolute Minimum:	Back-in parking, individual electrical outlets, central travel trailer sanitary & water stations, and toilets and showers.
2. Fair:	Back-in parking, individual electrical & water connections, central travel trailer sanitary station, toilets & showers.
3. Good:	Drive-through parking, individual electrical & water connections, central trailer sanitary station, toilets, showers, coin-operated laundr, and picnic tables.
4. Better:	Drive-through parking, individual electrical & water connections, central travel trailer sanitary station, toilets, showers, coin-operated laundr, picnic tables and grocery.
5. Best:	Drive-through parking, individual electrical, water & sewer connections, toilets, showers, coin-operated laundr, picnic tables, grocery. Also barbecue bottled gas, travel trailer parts for sale, plus bait & other fishing and sport accessories. Recreation buildin and swimming pool may be on a "pay as you go" basis.

Winter Facilities

Adequate parking space - large, nearly level snow or below freezing temperatures.

Skiing

1. Slopes should be long and various enough to be interesting.
2. Vertical drop should be at least 600 feet or more.
3. Ski area should be protected from prevailing winds.
4. Slopes should have gradients ranging from 20 to 35 percent.
5. Slopes for novice skiers should be 10 to 25 percent.
6. Slopes for intermediate skiers should be 20 to 35 percent.
7. Gradients in excess of 35 percent - on trails or slopes for the most advanced and expert skiers up to 40 or 50 percent slope.
8. Slopes must be smooth enough to allow skiing with a minimum of snow cover.
9. One acre for every 30 skiers.
10. One acre parking for every 10 acres of skiing slope.
11. Best exposure is toward the northeast.

Ski Jump

1. Must be built with accurate proportions between height, slope, inrun, dimensions and location of the take-off, and the slope and position of the landing hill.
2. Inrun - a slope of 25 degrees with a gradual leveling off near the take-off point.
3. Landing slope - 30 degree slope or greater, free from obstruction, at least 30 feet wide - gradually levels out in the out run.

Ice Skating

1. Best size - 85 by 200 feet; rounded corners with a 15 foot radius.
2. Should be surrounded by a wooden barrier three to four feet high, preferably cream in color.
3. A rink 85 by 185 feet has a capacity of 800 persons, (not all on the rink at the same time.)
4. Should have night lighting, warming shelter, music, runways for access with skates on, and a pleasant setting.

Toboggan Slides

1. Natural slopes can be used but specially constructed slides are more desirable.
2. Slide should be on a slope facing north or northeast.
3. Trees can protect the slide from the sun's rays.
4. If a wooded slide - the slide should be wide enough but not so wide that the toboggan can jump the track.
5. Slide should be designed so its entire length can be seen from the starting platform.
6. Slide should not be permament - construct so could be disassembled.

7. Earthen slide - easiest to build (trough dug one foot below the ground level and 30 inches wide, the dirt taken from the trough is then placed along the sides of the slide and the complete area sodded.)
8. Outrun must be completely level to prevent toboggan from upsetting.
9. Night-lighting - lights spaced 100 feet apart, 25 feet above the ground and as far as 30 feet away from the slide.

TABLE 4

STANDARDS FOR RECREATIONAL AREAS

Type of Recreation Area	Standards in Acres Per 1,000 Population	Ideal Size of Space Required for Activity
A. Active Recreation		
1. Playgrounds - Children	1 acre/1,000 pop.	1.25 Acre
2. Playfields - Young Children	1.25 acres/1,000 pop.	3 Acres
3. Sports Field - Older Children & Adults	1.50 Acres/1,000 pop.	15 Acres
4. Court Sports - Outdoor Basketball, Tennis, etc.	1 Acre/5,000 pop.	2 Acres
5. Swimming	1 outdoor pool/25,000 pop.	2 Acres
6. Boating	100 acres/50,000 pop.	100 Acres & Over
7. Camping, Hiking, Nature Study, Horseback Riding	10 acres/1,000 pop.	500-1,000 Acres
8. Golfing	1-18 hole course/50,000 pop.	120 Acres
B. Passive Recreation		
1. Picnicking	4 Acres/1,000 pop.	Undetermined
2. Fishing, Canoeing, Rowing	1 body of water/25,000 pop.	20 Acre Water Area
3. Botanical Gardens, Arbortiums, Zoos	1 acre/1,000 pop.	100 Acres
C. Other		
1. Recreation Areas Parking	1 acre/1,000 pop.	Undetermined
2. Recreation Ctrs.-Indoor	1 acre/10,000 pop.	1-2 Acres
3. Outdoor Theatres	1 acre/25,000 pop.	5 Acres
4. Football Field	1 per 20,000 pop.	Combine with A.3.
5. Softball Field	1 per 3,000 pop.	Combine with A.3.
6. Baseball Field	1 per 5,000 pop.	Combine with A.3.
7. Tennis Courts	1 location per 5,000 pop.	Combine with A.4.
8. Library	1 per 20,000 pop.	
9. Museum	1 per region	
10. Snow Skiing	1 per region	
11. Artificial Ice Area - Outdoor	1 per 5,000 pop.	

RECOMMENDED SURFACINGS FOR RECREATION AREAS, RELATED TO DENSITY

Kind of Area	Low and moderate density areas (Singles, twins, row houses, and flats)	High density areas (apartments)
General recreation area	Turf, natural soil	Bituminous concrete & sandclay, natural soil
Special play areas:		
Child service play yards	80% turf, 20% concrete	80% turf, 20% concrete
Game courts	Bituminous concrete, portland cement concrete, sand-clay, turf	Bituminous concrete, portland cement concret sand-clay, cork asphalt
Under playground apparatus	Lightloam, sand, tanbark, sawdust, shavings, turf	Lightloam, sand, tanbark, sawdust, shaving
Crafts & story-telling	Any hard surfacing or turf	Any hard surface or tu
Outdoor parties, dances, roller skating, etc.	Any smooth, hard surfacing	Any smooth, hard surfacing
Local play areas:		
For small children	Principally turf or natural earth, and smooth hard paving	Principally a smooth hard paving & some tur or natural earth
For all age groups	Turf, bituminous concrete, portland cement, concrete	Bituminous concrete, cork asphalt, portland cement
Sitting areas	Bituminous concrete, portland cement concrete, brick, pre-cast concrete slabs, flagstones	Concrete

Golf Courses

Golf courses should be on land specially selected for that purpose. Desirable characteristics of the site are uneven topography, but not rugged, some woodland, a good soil such as sandy loam, and good drainage. Courses can be made interesting through variations in the length of the holes and the width of the fairways, introduction of hazards, and the utilization of topography and natural tree growth.

A nine-hole golf course requires 50 acres or more; an eighteen-hole course should have a minimum of 100 acres but usually is 120 acres or more. The ideal nine-hole course should measure over 3,000 yards with a par of 35 to 37.

Course Layout and Planning:

The distance between the green of one hole and the tee of the next should never be more than 75 yards, and a distance of 20 to 30 yards is recommended. Trees should never be closer than 20 yards to a green.

The first tee in the ninth green of the course should be located immediately adjacent to the clubhouse. When practical, bring the green of the sixth hole near the clubhouse to accommodate the golfer with only an hour to play, as six holes can be comfortably played in that length of time.

No holes should be laid out in an east to west direction as the maximum volume of play on any golf course is in the afternoon, and it is difficult to follow the ball's flight into the setting sun.

Golf Course

	9-Hole Course	18-Hole Course
Minimum Area Required	60 Acres	120 Acres
Maximum Area Required	80 Acres	160 Acres
No. of Parking Spaces	100 Cars	200 Cars
Population Served	1 Hole per 3,000 persons or 27,000 persons	1 Hole per 1,500 persons or 25,000 persons
Service Radius	1/2-3/4 hour by car or public transportation	1 Hour Maximum by Car or Public Transportation
Average Length	Approx. 2,250 yds.	6,500 yards

In order to get the golfers started off on their game as expediently as possible, the first hole should be a relatively easy par-4 hole of approximately 380 to 400 yards in length. It should be relatively free of hazards or heavy rough where a ball might be lost and should have no features that would delay the player.

The holes should grow increasingly more difficult to play as the round proceeds. A golfer needs about three holes to warm up, and asking him to make difficult shots before warming up is a demand he will not appreciate.

Greens should be plainly visible and location of sand traps and other hazards obviously apparent from the approach area.

Fairways sloping directly up or down a hill are bad for the following reasons: (a) a steep sloping fairway makes the playing of the shot by the majority of the players a matter of luck rather than skill; (b) the up and down climb is fatiguing to the golfer; (c) turf is difficult to maintain on such an area.

The par-3 holes should be arranged so that the first of the two is not earlier in the round than the third hole and the other one is not later than the eighth hole. Par-3 holes should not be consecutive.

On level or flat land a nine-hole course of 3,100-3,400 yards can be laid out in approximately 50 acres, but it will be cramped. An eighteen-hole course of 6,200-6,500 yards or more would require at least 110 acres. This is a minimum, making the routing of the course extremely tight. Gently rolling land requires approximately 60 acres for nine holes and 120 acres for eighteen holes. Hilly or rugged land will require considerably more because of the waste land where the contours are severe. At least 70 acres will be needed for nine holes and 140-180 acres for eighteen holes.

The important parts of the modern golf course are the 2-shotter of 400 yards or more. The length of the 2-hole shot offers plenty of opportunity to develop good strategy. The short hole should be kept under 200 yards so that every golfer has an opportunity to reach the green with a good shot and thereby obtain his par or birdie.

Minimun length for a standard eighteen-hole golf course is 6,200 yards. A good average is 6,500 yards, and championship length is 6,700 to 6,900 yards. The short hole should range from 130-200 yards (par-3), and there are generally four of these holes. There may be five. Par-4 holes should range from 350 to 450 yards; there are generally 10 of these. Par-5 holes should range from 450-550 yards; there are generally four of these.

Fairway width is generally about 60 yards, but will vary depending on the type of players expected to play the course and the strategy of the play of the hole. A general rule of fairway width is as follows: 75-120 yards from the tee the fairway will be 40 yards wide; 120-180 yards from the tee the width will be 50 yards; 180-220 yards from the tee the width will be 60-70 yards.

The green sizes will vary from 5,000 to 8,000 square feet depending on the length of the hole and the length of the shot called for.

Standards

Type - 18-hole course

Development - Minimum size for a layout and effective operation is 120 acres including necessary auxiliary facilities such as clubhouse, restaurant, and parking.

Parking - Space for 200 automobiles.

Type - 9-hole course

Development - Minimum size for layout and effective operation is 60 acres including necessary auxiliary buildings.

Parking - Space for 100 automobiles.

(Additional desirable facilities at the golf course are putting greens and driving ranges. These facilities require additional parking spaces.)

Camp Sites

Standards

Type - En-route

Development - 10 units per acre

Parking - One car space and space for one trailer per unit

Type - Organizational

Development - Five acres developed with permanent facilities and structures for eating and sleeping to accommodate 100 persons.

Parking - Minimum 50 spaces

Type -	Group
Development -	Five acres with sanitary and basic cooking facilities and open space for bedding or tents sufficient to accommodate not more than 50 persons for short periods of time.
Parking -	Minimum of 25 spaces

Type -	Family with tent or trailer
Development -	Four units per acre (unit consists of table, cooking facilities, space for tent or bedding and screening.)
Parking -	One car space for every unit

Camping and picnicking units should be at least 100 feet apart to preserve the forest cover and to provide privacy. A camping unit should consist of a platform or area for pitching a tent; tables and benches; and nearby water supply; cooking and sanitary facilities. Areas should be easily accessible to roads or trails. The terrain in site areas preferably should have a 10 percent slope but should not exceed 20 percent. Recommended also is the adoption of four persons per unit as the average capacity for all types of facilities. Minimum, maximum, and optimum density standards can be applied to camp and picnic units. At a capacity of four persons per unit, these units should be spaced no closer than 100 feet apart of five per acre in staggered arrangements in the forest area and in more intensive areas no closer than 50 feet apart or 10 unit per acre.

Scattered camp development is undesirable from the standpoint o aesthetics, economics in construction, and maintenance and administ tion. Scattered development hampers good forest and land managemen practices. Consequently, cluster standards have been devised to cover each camping recreation facility, based on construction economics and administration and on the necessity for protecting the recreation resources by providing for large open areas between clusters. The camp and picnic clusters should be planned for a minimum of 25 and a maximum of 50 units per cluster. The area of the site should be at least five and no more than ten acres for each cluster. Design considerations must be related to topography, and cover and standards may have to be modified in certain instances.

Picnic Sites

Picnicking facilities should be developed so that there is proper balance among the three major types of facilities: those within communities, those outside the communities, and those along highways. The family picnic unit should consist of a table and benches with nearby water supply and cooking and sanitary facilities. Auto parking space and proper access are additional requirements.

Within the urban area, people will travel an average of five miles from home to a picnic area. Picnic areas located within the community should have no more than 16 picnic units per acre, with each unit accommodating not more than 8 persons.

For large groups the same type of facilities are needed, but less space is allotted to each picnicker. For an organized group picnic area within a city, 200 persons per acre is desirable. It is also recommended that an additional one-third acre for each group area be provided to accommodate 50 cars.

For picnic areas located on the fringe of an urban area, eight units per acre is the recommended standard with one parking space provided for each unit.

For wayside rests, along major highways, units should be planned at a maximum density of 16 units per acre with no fewer than four units at a single location.

Riding and Hiking Areas

Standards for Riding and Hiking Trails

Type - Hikes of one day or less

Development - Well defined and maintained trail, up to ten feet in width, grades not to exceed five percent average with a maximum of fifteen percent.

Parking - Minimum parking for 25 cars at any one access point. On short, scenic, and well known trails the parking area might be expanded to 100 parking spaces.

Type - Overnight hikes

Development - Well defined trail with average grades of five percent and none to exceed fifteen percent. Three to five acre overnight trail camping areas should be provided at interludes of about five hours hiking time.

Parking - Minimum for 10 automobiles at any access point.

(It is recommended that trail stops be located six to fifteen miles apart, that pathways be a minimum of six feet in width, and that trails be a minimum length of six to twelve miles.)

Standards for Horseback Riding

Type -	Rides of one day or less
Development -	Well graded wide tracks with interconnecting loop trails and numerous access points. Average grade should be five percent and not exceed fifteen percent.
Parking -	A minimum space for 10 cars and stock trailers and a loading ramp or platform.

(Heavily used trails may need up to 80 spaces for cars and trailers. Adequate holding stalls, hitching racks, and water are of utmost importance.)

Type -	Extended trips
Development -	The same as the one day or less rides with the stationing of overnight trail areas 12 to 15 miles apart with the minimum size for these areas being three to five acres. Ample space should be allowed around development to allow for a buffer zone. If possible, water should be available every six miles.
Parking -	The assembly areas or jump off points should be large enough to park vehicles and stock trailers. If the assembly area is also the base camp facility, it should be a minimum of 20 acres with the necessary basic facilities such as water and toilets.

Thoroughfares and Roads

A Thoroughfare Plan for the Cherokee Indian Village was prepared by the Planning and Research Branch of the Division of Highways, North Carolina Department of Transportation in January of 1974 and subsequently adopted by the Cherokee Planning Board and by the Tribal Council on July 11, 1974. The plan was finally adopted by the North Carolina Department of Transportation on September 6, 1974. Because the Thoroughfare Plan is a vital element of any Land Development Plan and also due to its recent adoption, it is reproduced here with a supplementary section relating to BIA roads.

The following thoroughfare plan outlines a coordinated system of major streets and highways to serve as a basis for future development of the Cherokee Village street system.

The Cherokee Village plan was developed following the basic thoroughfare planning principles as described later in this Chapter. It is based on very general traffic, land use, and economic data. An analysis of existing traffic was done on the basis of historical growth patterns established by traffic counts over a ten year period. Major and minor thoroughfares were located based on field investigations, aerial photos, existing and anticipated land uses, and topographic conditions. The plan sets forth those improvements which are expected to be required for proper traffic circulation within the current planning period (1973-1995).

Since a number of governmental units will be involved in implementation and administration of the plan, it was desirable that the plan be formally adopted by the Tribal Council and the North Carolina

Board of Transportation. This helps to assure coordination of efforts

It should be emphasized that the plan is based on the anticipated growth of the area as indicated by current trends. Moreover, since additional study will be required before construction begins on the recommended improvements, the plan must be considered preliminary.

Thoroughfare Planning Principles

Typically, an urban street system occupies 25 to 30 percent of the total developed land in the urban area. Since the system is permanent and expensive to build and maintain, much care and foresight are needed in its development. Thoroughfare planning is the process used by public officials to assure the development of the most logical and appropriate street system to meet existing and future travel desires within the urban area. The major steps involved in the thoroughfare planning process are:

1. Collecting data relative to present physical and travel conditions within the urban area.
2. Estimating future traffic conditions within the urban area.
3. Evaluating the data to determine the adequacy of the existing street system in meeting present and anticipated traffic conditions.
4. Devising the best thoroughfare plan, on the basis of sufficiency, economic benefits, construction costs, and compatibility with other elements of the urban development program, to meet future travel desires.
5. Implementing the plan.

Purpose of Planning

There are many benefits to be gained from thoroughfare planning, but the primary objective is to assure that the urban street system will be progressively developed in such a manner as to adequately serve future travel desires. Thus, the cardinal concept of thoroughfare planning is that provisions be made for street and highway improvements so that, as needs arise, feasible opportunities to make improvements exist.

The major benefits derived from thoroughfare planning are: (1) Each street can be designed to perform a specific function. This permits savings in rights-of-way, construction and maintenance costs, protects residential neighborhoods, and encourages stability in travel and land use patterns. (2) Local officials and citizens are informed as to future improvements. Developers can design subdivisions to function in a non-conflicting manner. School and park officials can better locate their facilities. Irretrievable damage to property values and community appearance, as is sometimes associated with street building and widening programs, can be minimized. City officials will know when improvements will be needed and can schedule funds accordingly.

Thoroughfare Concept

Streets perform two primary functions -- they provide traffic service and land service. These two functions, when combined, are basically incompatible. The conflict is not serious as both traffic and land service demands are low. But when traffic volumes are high, conflicts created by uncontrolled and intensely used abutting property result in intolerable traffic flow friction and congestion.

The underlying concept of the thoroughfare plan is that it provides a functional system of streets which permits travel from origins to destinations with directness, ease, and safety. Different streets in the system are designed and called on to perform specific functions, thus minimizing the traffic and land service conflict. Streets can be categorized as to function and standards applied as follows (Figure 1):

Local Access Streets

These streets have the purpose of providing access to abutting property. They are not intended to carry heavy volumes of traffic and should be located in such a way to serve only traffic with origins or destinations on these streets. There are several different types of local access streets which can be classified according to the type of abutting land use which they serve. They are:

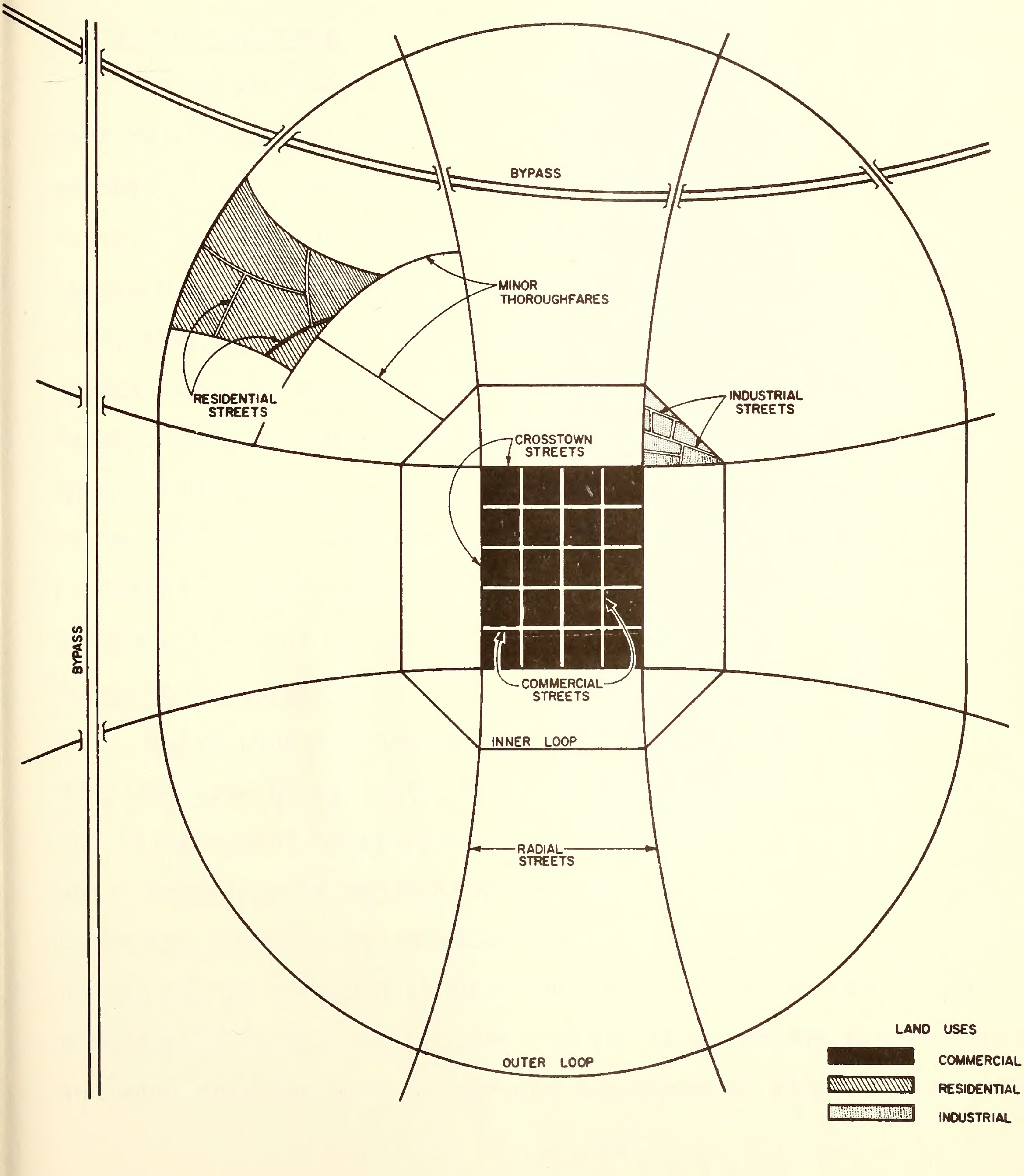
Residential Streets: Residential streets provide access to abutting residential property. Through traffic movements should be discouraged by designing them as loops or cul-de-sacs (dead-end streets with turn arounds). These streets should have two traffic lanes and may have parking on one or both sides. They should have a minimum right-of-way of 60 feet.

Commercial Streets: Commercial streets provide access to abutting commercial property. They permit traffic to circulate in commercial areas and to reach parking facilities near their desired destinations. These streets should have sufficient width to provide two traffic lanes; and, if on-street parking is permitted, sufficient width for parking operation lanes and parking spaces. If a commercial street is used as a thoroughfare, additional traffic lanes may be required.

Industrial Streets: Industrial streets provide access to abutting industrial development. They usually have a higher

FIGURE I

IDEALIZED THOROUGHFARE PLAN



percentage of truck traffic and loading and unloading may take place on the street. Two traffic lanes should be provided with additional street width for parking or loading and unloading if either is permitted. A minimum right-of-way of 60 feet is desirable.

Minor Thoroughfares

These are more important streets in the city system. They perform the function of collecting traffic from residential, commercial, and industrial streets and carrying it to the major thoroughfares. In some cases, they may supplement the major thoroughfare system by facilitating a minor through traffic movement. In either case, they perform an additional function by also serving abutting residential, commercial, or industrial property. Minor thoroughfares should be designed to serve only a limited area to prevent their development as major thoroughfares. Two or four traffic lanes may be required, depending on traffic volumes, and parking may be permitted on both sides. Right-of-way may vary upwards from a recommended minimum of 60 feet.

Major Thoroughfares

Major thoroughfares provide for (1) the movement of traffic from one area of the city to another, (2) through traffic movements, and (3) movement of traffic into and out of the city. The streets which comprise the major thoroughfare system may also serve abutting property; however, THEIR MAJOR FUNCTION IS TO CARRY TRAFFIC. They should not be bordered by uncontrolled strip development. Such development lowers the capacity of the thoroughfare significantly and each driveway is a danger and impedance to traffic flow. Major thoroughfares may range from a two-lane street carrying minor traffic volumes to major expressways with four or more traffic lanes. Design standards vary accordingly. Usually parking should not be permitted on major thoroughfares.

Idealized Major Thoroughfare System

A coordinated system of major thoroughfares forms the basic framework of the planned urban street system (Figure 1). This system, while generally involving about 25 percent of the total street mileage, carries about 80 percent of the total traffic. Major thoroughfares can be divided into four categories: radial streets, crosstown streets, loop streets, and bypasses.

Radial Streets

Radial streets provide for direct traffic movement between the central area and outlying areas. This is a major movement in most cities and the economic strength of the central area depends heavily on the adequacy of the radial thoroughfares.

The Crosstown System

If all radial streets crossed in the central area, an intolerabl congestion problem would result. To avoid this problem, it is very important to have a system of crosstown streets which forms a loop around the central business district. These streets route traffic along the border of the central area as it moves from origins on one side to destinations on the other. The system also allows central area traffic to circle the central area and enter near its destination. The effect of a good crosstown system is to free the central area of crosstown traffic, thus permitting the central area to better function in its role as a pedestrian shopping area.

The Loop System

Loop streets move traffic between suburban areas of the city. Although a loop may completely encircle the city, a typical trip would be from an origin near a radial thoroughfare to a destination near another radial thoroughfare. Loop streets do not necessarily carry heavy volumes of traffic, but they function to help relieve central area congestion and shorten travel times between suburban areas. There may be one or more loops, depending on the size of the urban area, and they are generally spaced one-half mile to one mile apart, depending on the intensity of the land use.

The Bypass

Bypasses function to carry traffic through or around the urban area. They are usually designed to rural highway standards with control of access. The general effect of the bypass is to expedite the movement of through traffic and to lessen traffic congestion within the city. Occasionally a low traffic volume bypass can be designed to function as a portion of an urban loop.

Philosophy of Approach

The above description of the idealized thoroughfare system applies to an idealized situation. While the same basic principles apply, it is not the purpose of the thoroughfare plan to present an idealistic pattern superimposed on the existing street system. Thoroughfare planning is done for established urban areas and based on anticipated future development. Residential areas, schools, shopping center locations, major industrial areas, railroads, public and semi-public land use locations, topographical features, and many other factors all exert influences on the locations of thoroughfares. It is also necessary that maximum advantage be taken of the existing basic street system which represents a major monetary investment and the thoroughfare plan must be compatible with other elements of the urban planning and development program.

Cherokee - Existing Conditions

Cherokee Village is the only town in the Qualla Tract of the Cherokee Indian Reservation. The village is located in Swain County near the Jackson County line on the Oconaluftee River. The village serves as an eastern and southern gateway to the Great Smoky Mountain National Park. The geographic location of Swain County is shown in Figure 2. The planning area selected for the Cherokee Thoroughfare Planning Study is shown in Figure 3.

Population Trends

The Cherokee Village planning area lies in parts of Charleston Township in Swain County and Qualla Township in Jackson County. Since 1950, Charleston Township has consistently declined in population while Qualla Township has experienced a moderate increase. The 1950, 1960, and 1970 populations of the two townships are shown in Table 5.

TABLE 5

1950, 1960, AND 1970 POPULATIONS OF CHARLESTON AND QUALLA TOWNSHIPS

Township	1950	1960	1970
Charleston	8329	7041	6861
Qualla	2499	2560	3102

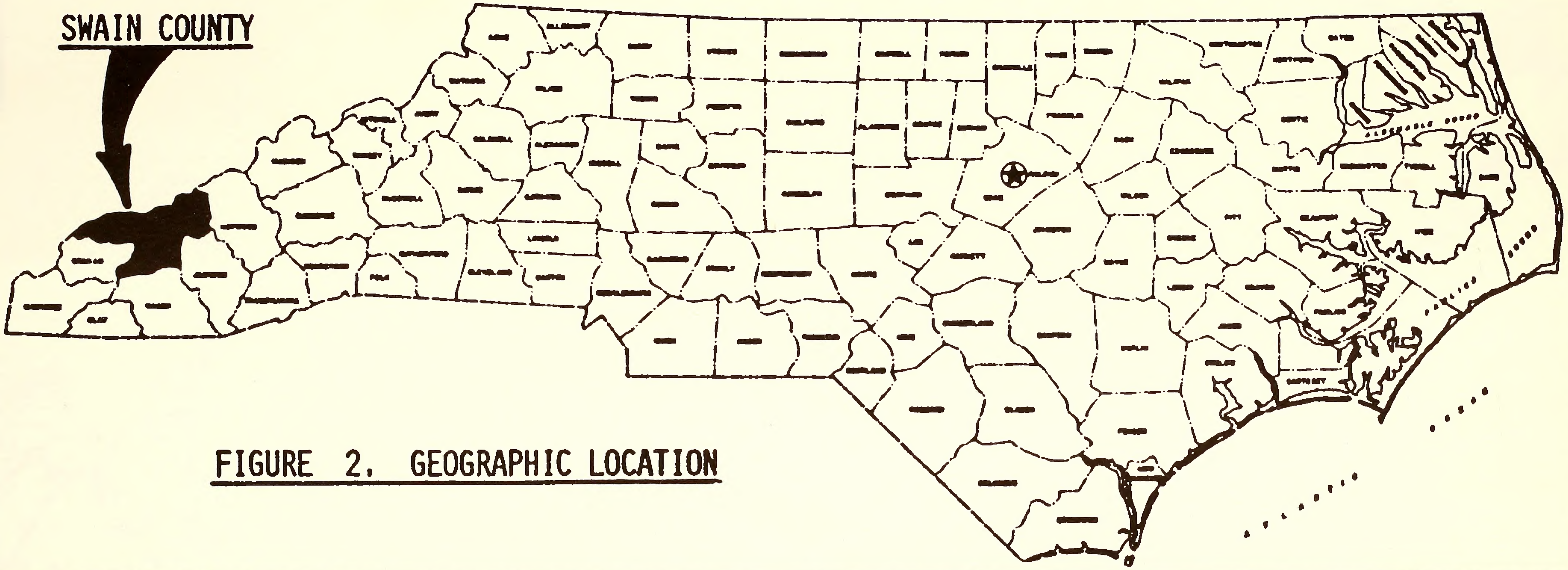
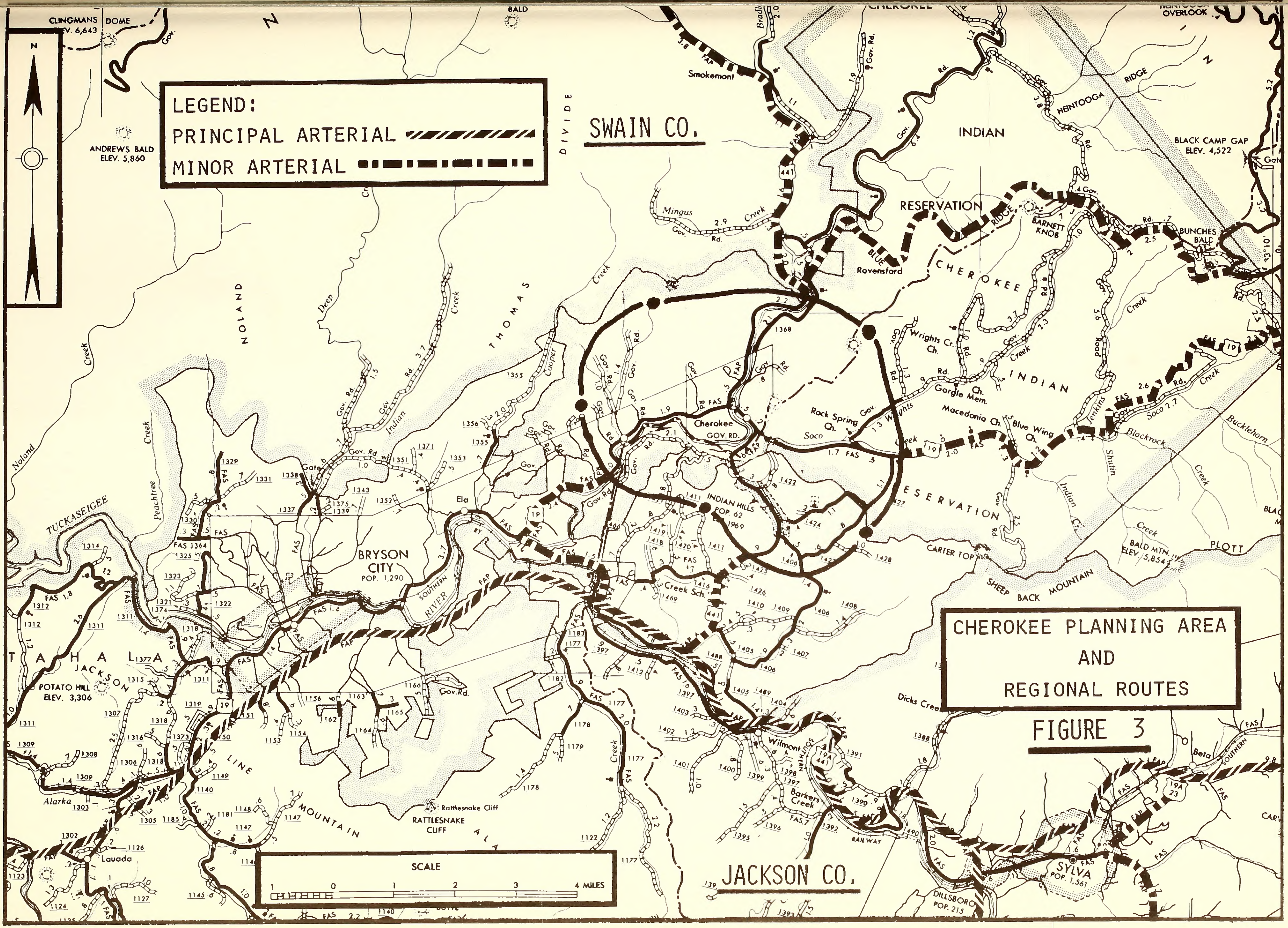


FIGURE 2. GEOGRAPHIC LOCATION



CHEROKEE PLANNING AREA
AND
REGIONAL ROUTES

FIGURE 3

Land Use Trends

The primary industry in Cherokee Village is tourism. The Cherokee Pageant, Unto These Hills, is a major outdoor drama located in Cherokee which attracts large numbers of tourists every year. US 19 and US 441 are primary routes for tourists visiting the Great Smoky Mountain National Park and other scenic attractions in Western North Carolina. Much of the settlement in Cherokee is along these two routes. Because of the flourishing tourist business, a trend toward expansion of tourist related commercial activity is apparent.

Industrial and commercial establishments unrelated to the tourist trade are small and currently not a significant factor in the economy of the area.

Traffic Volume Trends

The Cherokee major street system and average annual daily traffic volumes for 1961, 1966, and 1971 are shown in Figure 4. The average daily traffic volumes on major routes during the peak season (summer months) are shown in Figure 5. On the average, the traffic volumes during the summer months are approximately 2.2 times the annual average daily traffic volumes.

The routes having the highest ADT are US 19 and US 441.

Existing Major Streets

The Cherokee major street system is comprised of two existing major routes, US 19 and US 441.

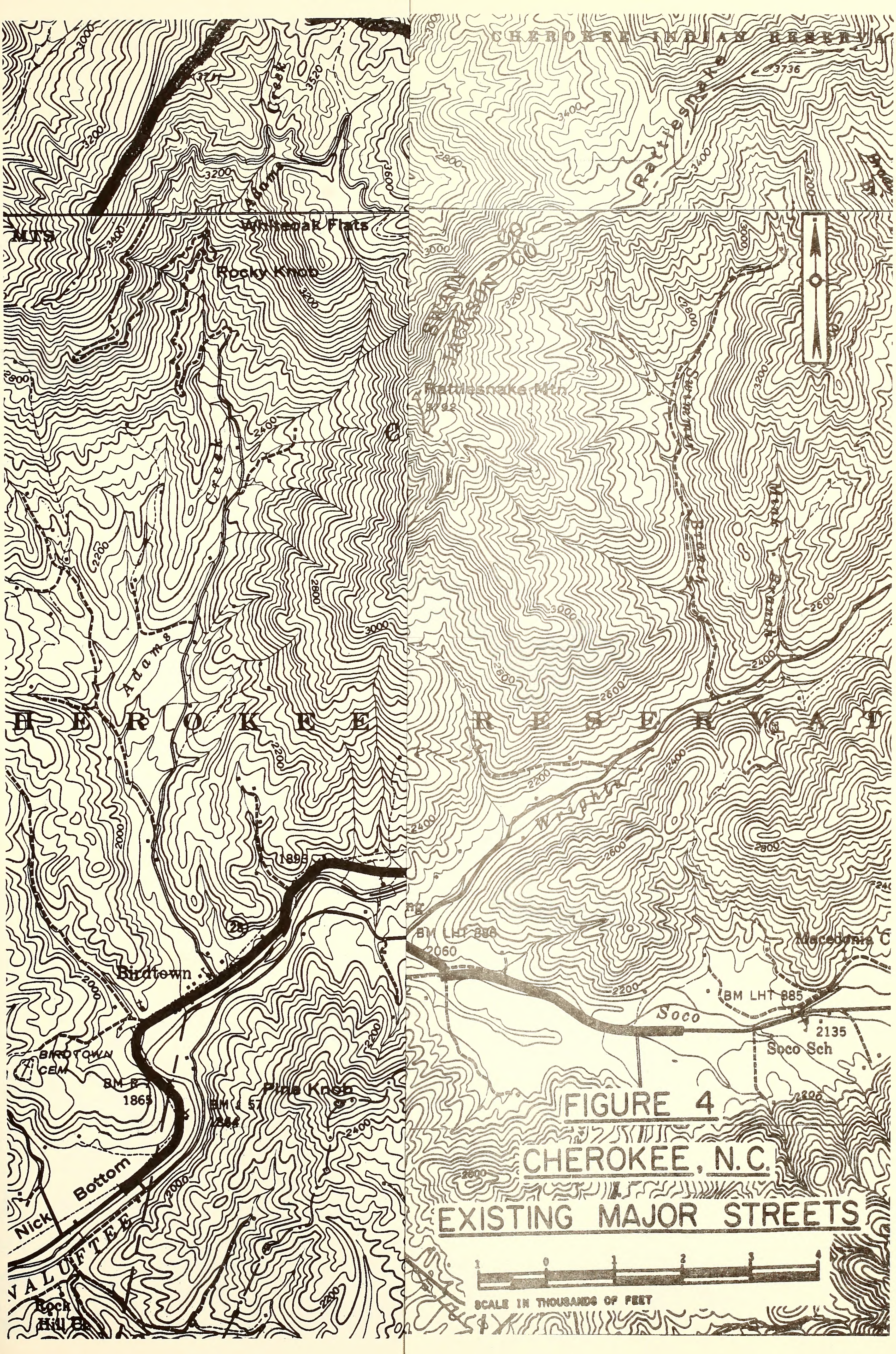


FIGURE 4

CHEROKEE, N.C.

EXISTING MAJOR STREETS

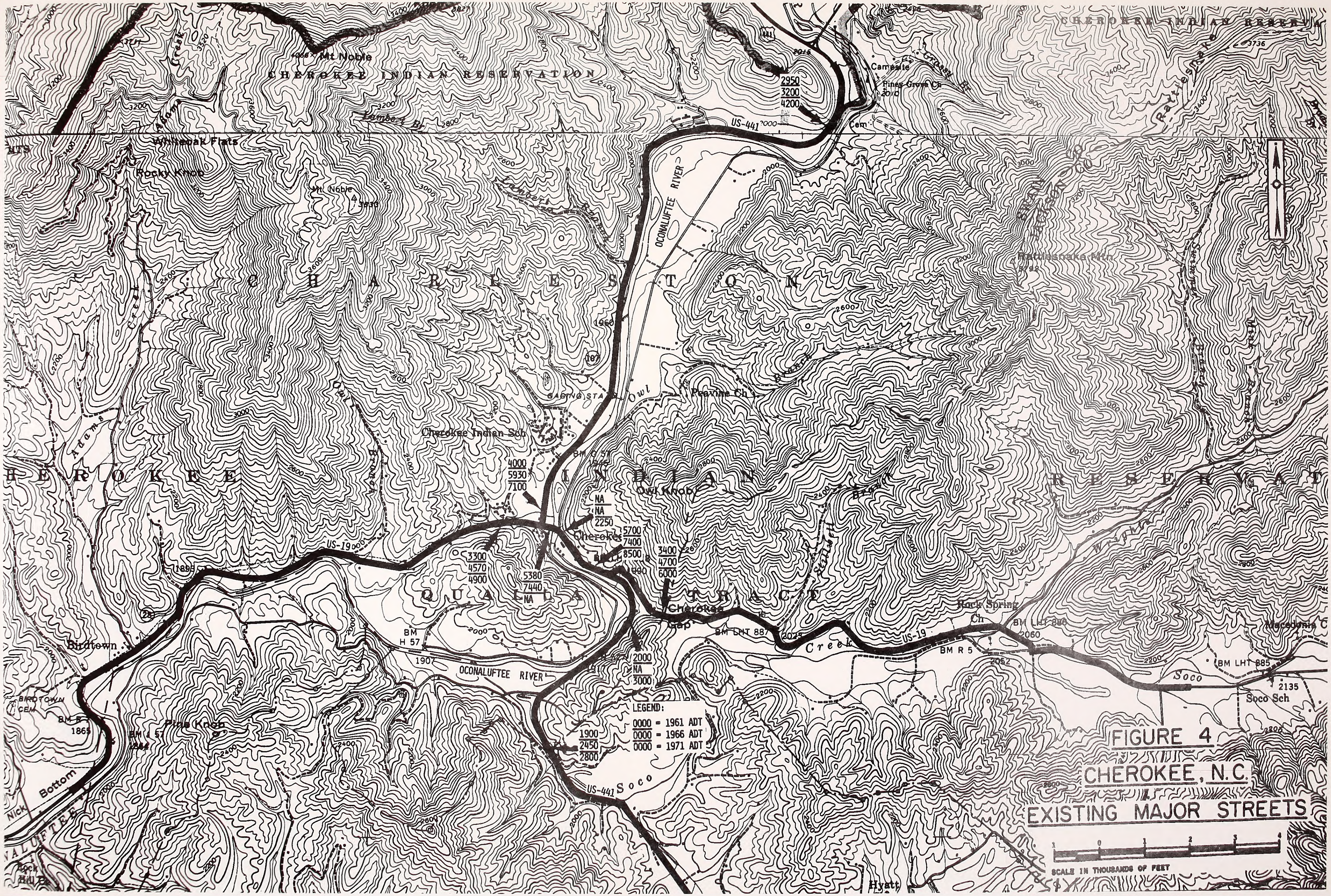


FIGURE 4

CHEROKEE, N.C.

EXISTING MAJOR STREETS

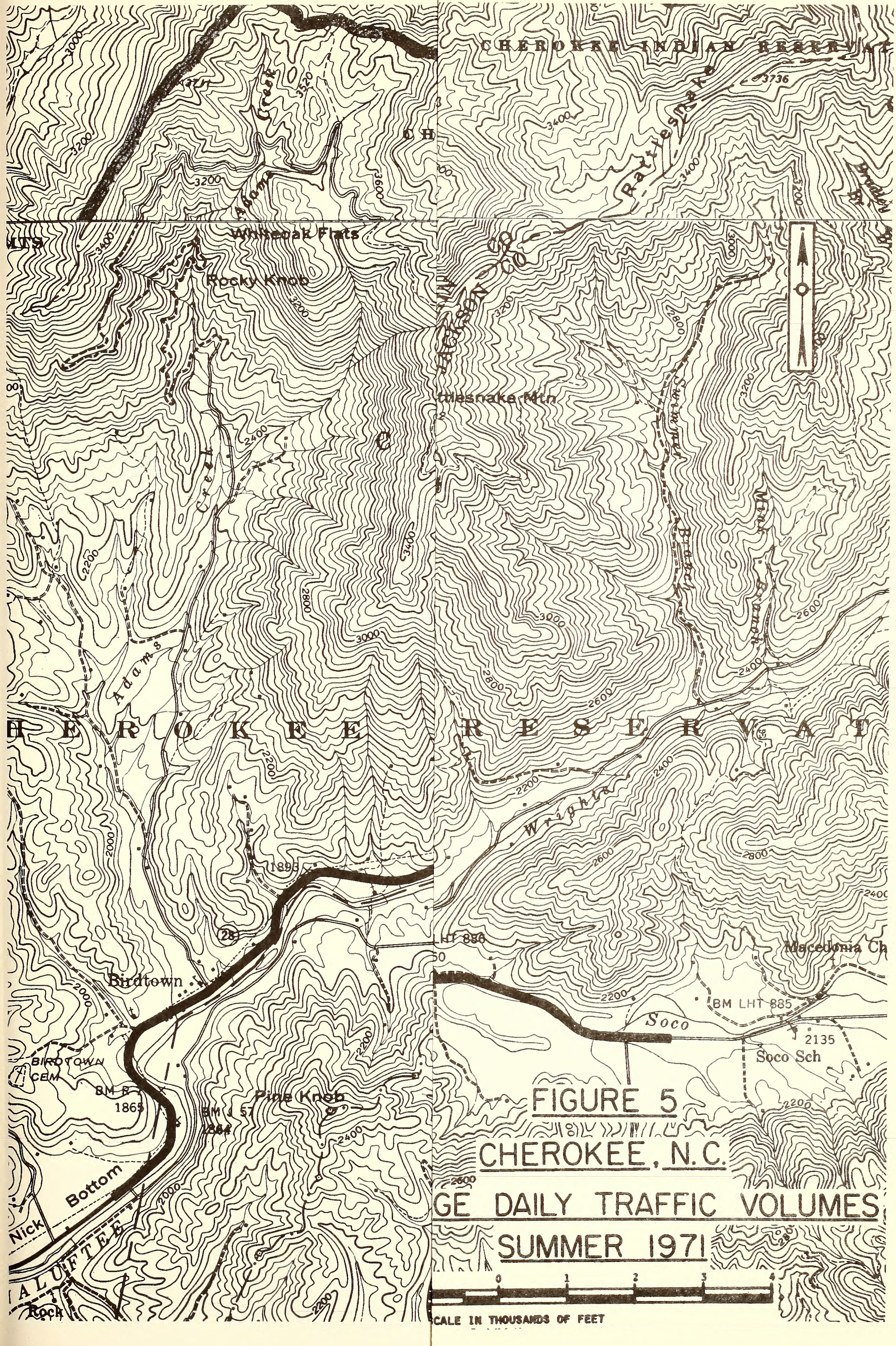


FIGURE 5

CHEROKEE, N.C.

GE DAILY TRAFFIC VOLUMES

SUMMER 1971

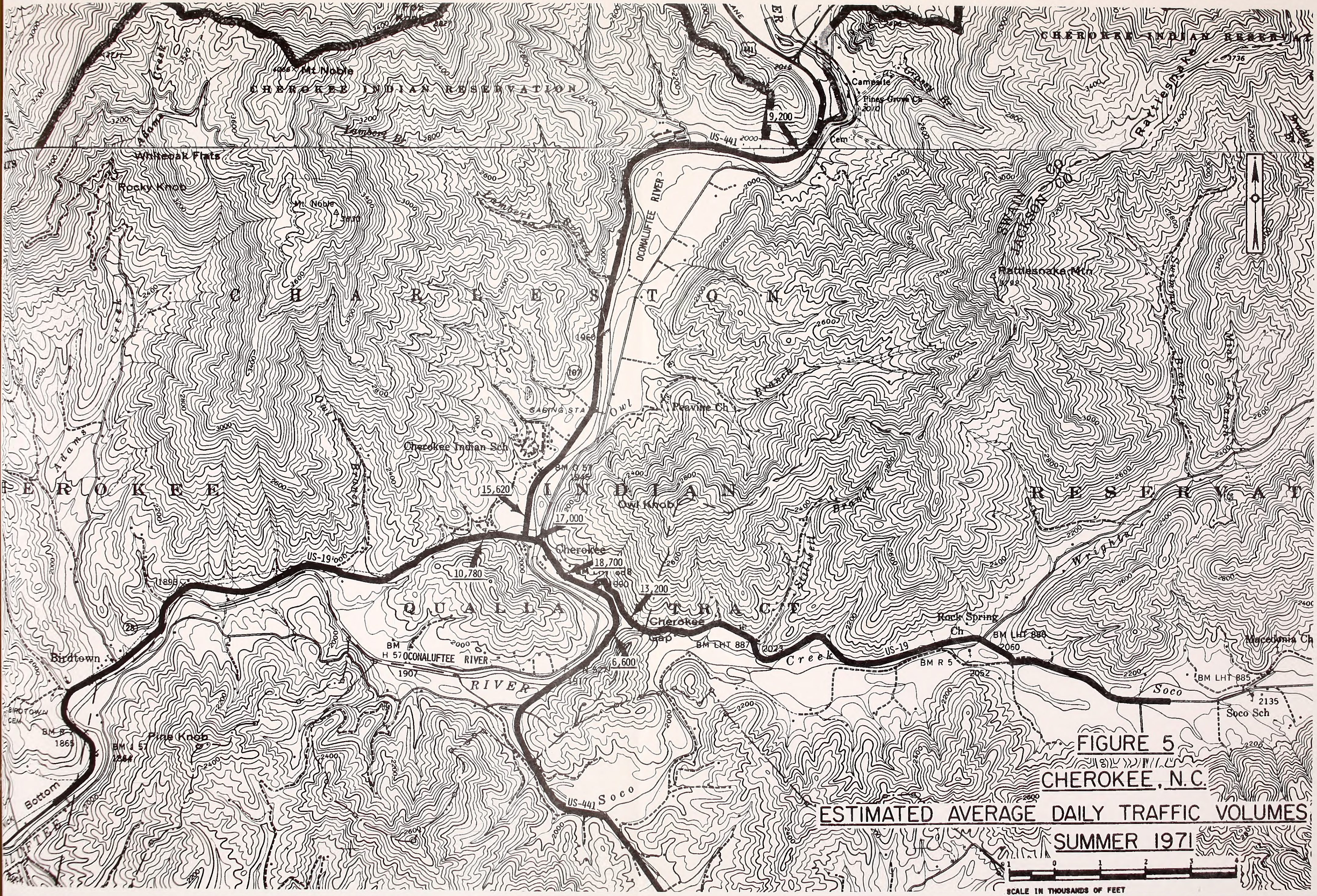


FIGURE 5

CHEROKEE, N.C.

ESTIMATED AVERAGE DAILY TRAFFIC VOLUMES

SUMMER 1971

On the basis of field investigations and existing traffic volumes (during the summer) both routes are capacity deficient.

Proposed Thoroughfare Plan

The recommended thoroughfare plan for Cherokee is shown in Figure 6. The development of a plan for Cherokee was concerned primarily with alleviating the capacity deficiencies on US 19 and US 441 through the village.

US 19

It is recommended that US 19 be upgraded to four travel lanes along the existing alignment through the village. The recommended cross section for the improvement is cross section A as shown in Figure 7.

US 441

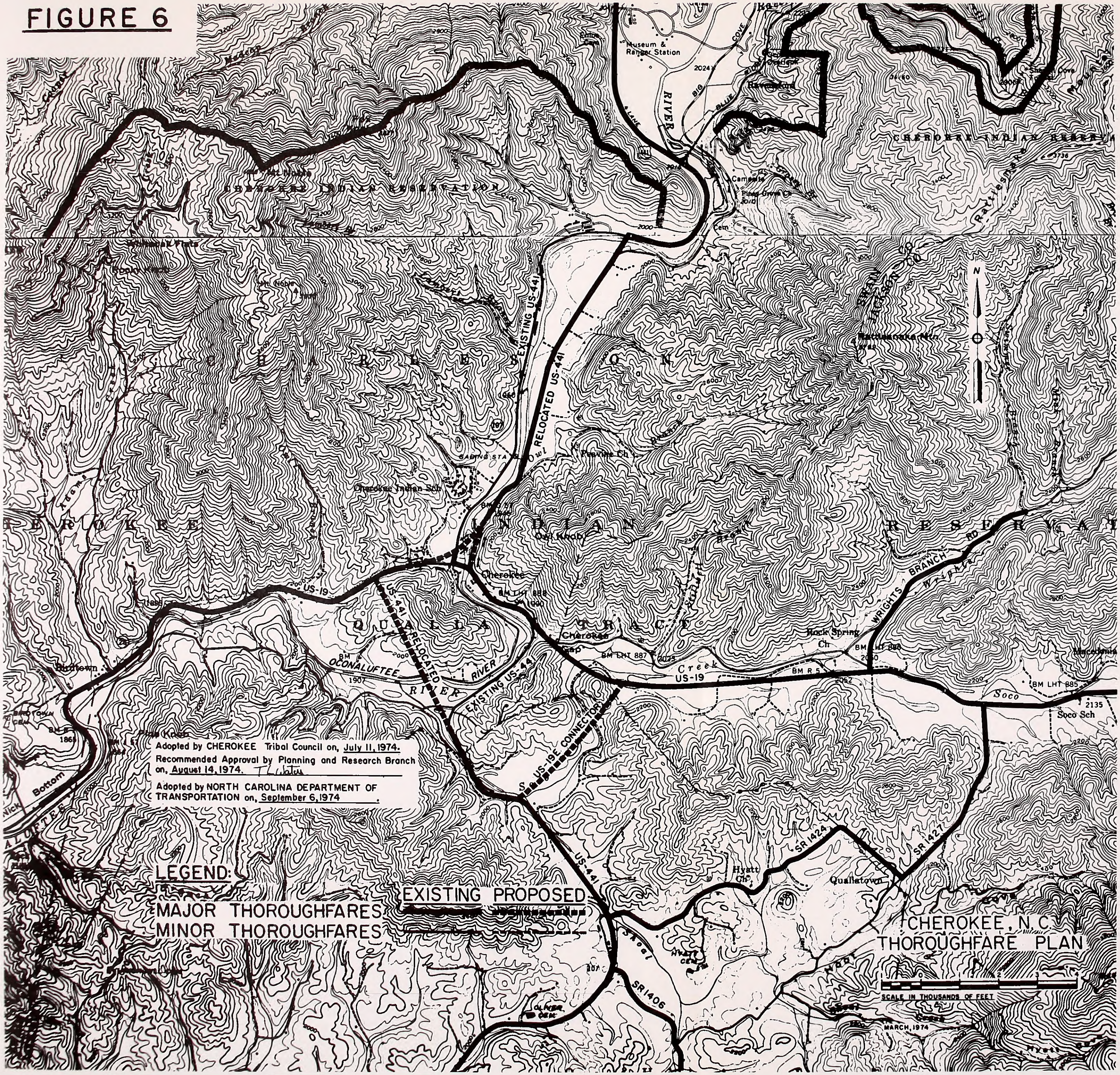
It is proposed that a US 441 Relocation be constructed from the intersection of US 19 to the existing four lanes north of Cherokee. The proposed cross section for the relocation is cross section A in Figure 7. A barrier type grass median is recommended with crossovers only at designated major street intersections. The restricted crossover locations will insure that intersection spacing is such that traffic signal progression can provide a desirable operating speed on the relocation. The barrier median will permit only right turn access to abutting property. Thus improving traffic safety.

To the north of Cherokee in the vicinity of the new school, the relocation has two alternate alignments:

FIGURE

H E R O K
Adams
2000
Birdtown
BIRDTOWN CEM
BM
1865
Bottom
Nick
ALUFTEE

FIGURE 6



Adopted by CHEROKEE Tribal Council on, July 11, 1974.
Recommended Approval by Planning and Research Branch on, August 14, 1974. T. Lalata

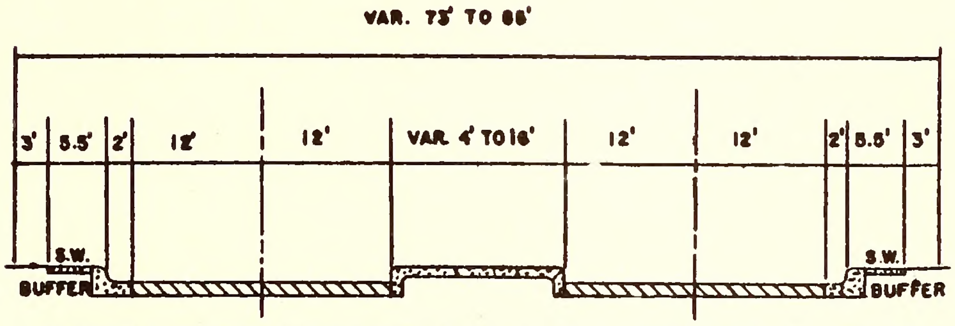
Adopted by NORTH CAROLINA DEPARTMENT OF TRANSPORTATION on, September 6, 1974.

LEGEND:

	EXISTING	PROPOSED
MAJOR THOROUGHFARES	▬	▬ ▬
MINOR THOROUGHFARES	─	─ ─

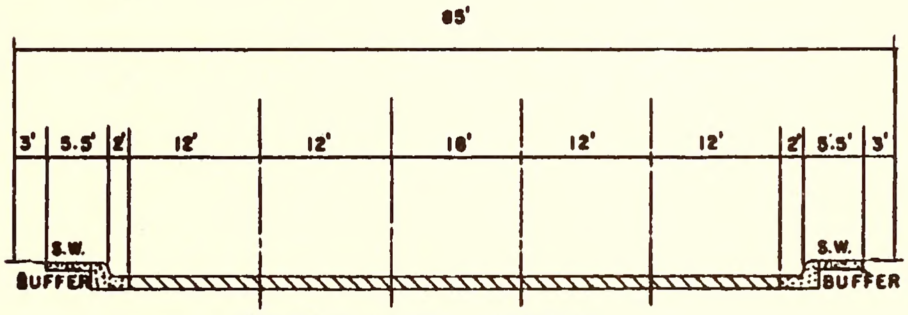
CHEROKEE, N.C.
THOROUGHFARE PLAN

TYPICAL STREET CROSS SECTIONS



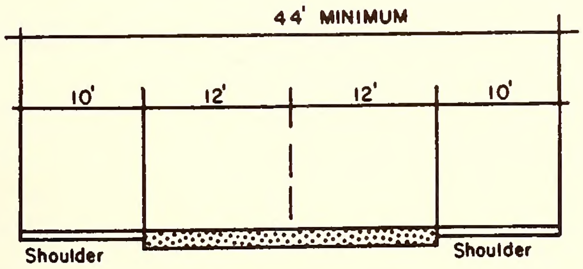
FOUR LANES DIVIDED URBAN BOULEVARD CAPPED MEDIAN

Ⓐ



FIVE LANES-URBAN

Ⓑ



TWO LANES - RURAL

Ⓒ

FIGURE 7

1. Along the Oconaluftee River Bank behind the school.
2. Along the general alignment of existing SR 1348 in front of the school.

US 441 south of Cherokee is scheduled for improvement under State Highway Project 6.803581. The project will widen the existing two-lane roadway to a 68-foot, face to face of curb section, cross section B in Figure 7, from Gateway in Jackson County to US 19 at a point approximately 0.5 mile west of the present US 19 - US 441 intersection west of Cherokee. The project will also include a US 19 East Connector connecting existing US 19 east of Cherokee to the proposed US 441 project.

Functional Classification of Streets and Highways

The recommended thoroughfare plan for Cherokee (Figure 6) consists of the following functional classifications of existing and proposed streets and highways.

Major Thoroughfares

1. US 19
2. Proposed US 441 north and south of Cherokee
3. Proposed US 19 - US 441 connector southeast of Cherokee
4. Wrights Branch Road
5. SR 1427 - SR 1424
6. SR 1406

Minor Thoroughfares

1. Existing US 441 north of Cherokee between US 19 and the proposed US 441 relocation
2. Existing US 441 south of Cherokee between US 19 east and the proposed US 441 relocation

Design Requirements

Design requirements for thoroughfares vary according to the desired capacity and level of service to be provided. Thus, universal standards to be followed in the design of thoroughfares are not practical and each street section must be individually analyzed.

The level of service is a function of the ease of movement experienced by motorists using the facility. The ability of a motorist to drive at a desired speed is dependent upon the physical design of the street; the amount and character of traffic control devices; the influence and character of traffic generated by abutting property; and imposed speed restrictions. The level of service is generally indicated by the over-all travel speed[1] experienced by traffic. Recommended minimum levels of service for thoroughfares included in the proposed Cherokee Thoroughfare Plan are given in Table 6.

TABLE 6

DESIRABLE LEVELS OF SERVICE FOR THOROUGHFARES
CHEROKEE PLANNING AREA

Facility	Overall Travel Speed During Peak Traffic Conditions
Major Thoroughfares	
US 79	45-55 MPH
US 441	45-55 MPH
US 19-441 Connector	45-55 MPH
Wrights Branch Road	35 MPH
SR 1427 - SR 1424	35 MPH
SR 1406	35 MPH
Minor Thoroughfares	25-35 MPH

---

[1] The overall speed is the total distance traveled divided by total time required, including all traffic delays.

There are many factors which influence the traffic capacity of a street; i.e., the number of vehicles that a street can accommodate. Typical capacities for various street cross sections are related here for general guidance. Table 7 indicates typical capacity standards for various types of facilities in terms of vehicles per hour per lane and for a 24-hour period. These design volumes are based on average traffic characteristics including 20 percent turning movements at principal intersections, 10 percent truck volumes, and approximately 50 percent green time at signalized intersections. The 24-hour volumes assume that the peak hour comprises 10 percent of the daily total with 60-70 percent of the peak hour traffic in one direction.

TABLE 7

TYPICAL CAPACITY DESIGN STANDARDS

Facility	Practical Capacity[a]	
	Vehicles Per Hour Per Lane	Vehicles Per Day
Two Lanes Plus Parking		
Two-way	400-500	5,700-8,200
One-way	450-600	10,000-13,000
Four Lanes, No Parking		
Two-way	450-550	13,000-18,500
Two-way with special measures	600-800	17,000-26,000

[a] These typical capacities are based on average traffic flow characteristics with 10 percent of the 24-hr. volume occurring during the peak hour and with 60-70 percent of the total peak hour flow being in the predominant direction. For intersections the green time has been assumed at 50 percent.

Specific cross section recommendations for the thoroughfares included in the proposed Cherokee plan are listed in Table 8. Typical cross sections are shown in Figure 7.

TABLE 8

CROSS SECTION RECOMMENDATIONS

Facility	Existing Width	Existing ROW	Recommended Cross Section
Major Thoroughfares			
1. US 19			
West P.A.B.[a] - US 441 Relocation	20'	60'	Adequate
US 441 Relocation - Existing US 441	20'	60'	B
Existing US 441 - Existing US 441	50'	60'	Adequate
Existing US 441 - East P.A.B.[a]	20'	60'	A
2. US 441 Proposed			
US 19 - South P.A.B.[a]	18'-20'[b]	60'[b]	B
US 19 - North P.A.B.[a]			A
3. US 19 - US 441 connector (Proposed)			C
4. Wrights Branch Rd.	NA[c]	NA[c]	Adequate
5. SR 1427 - SR 1424			
US 19 - SR 1424	18'	NA[c]	Adequate
SR 1427 - US 441	18'	NA[c]	Adequate
6. SR 1406	12'	NA[c]	C
Minor Thoroughfares			
1. Existing US 441 North of Cherokee	20-22'	NA[c]	Adequate
2. Existing US 441 South of Cherokee	20'	60'	Adequate

[a] P.A.B. - Planning Area Boundary

[b] Where Existing

[c] NA - Not Available

Implementation

There are several tools which are recommended for implementation of the thoroughfare plan. They are as follows:

State-Local Government Adoption of the Thoroughfare Plan

Chapter 136, Article 3A, Section 136-66.2 of the General Statutes of North Carolina provides that after development of a thoroughfare plan, the plan may be adopted by the governing body of the municipality and the Board of Transportation as the basis for future street and highway improvements in and around the municipality. Once the thoroughfare plan is mutually adopted, negotiations will begin to determine which of the existing and proposed thoroughfares will be a Board of Transportation responsibility and which will be a municipal responsibility. Facilities which are designated a State responsibility will be constructed and maintained by the Division of Highways of the North Carolina Department of Transportation; however, the municipality will share in the right-of-way costs with the municipality's share of the cost to be determined at time of construction.

Subdivision Control

A subdivision ordinance requires that every subdivider submit to the Town a plot of his proposed subdivision. Certain standards must be met by the developer before he can be issued a building permit to construct his development. Through this process it is possible to reserve or protect the necessary right-of-ways for projected streets which are a part of the thoroughfare plan and to require street construction in accordance with the plan.

Official Street Map

A municipality may, through special enabling legislation, adopt an official street map which indicates both existing and future street lines. No new construction or reconstruction of structures would be permitted with the designated future street lines. This would over a period of time, reduce the cost of additional right-of-way along densely developed thoroughfares which will require widening at some future date.

Zoning

A zoning ordinance can be beneficial to thoroughfare planning in that planned locations of various land uses and planned densities of dwellings can be realized. This provides a degree of stability on which to make future traffic projections and to plan streets and highways.

Other benefits of a good zoning ordinance are: (1) the establishment of standards of development which will aid traffic operations on thoroughfares; (2) the minimization of strip commercial development which creates traffic friction and increases the traffic accident potential; and (3) the requirement for provision of off-street parking by new developers with the purpose of eventual prohibition of all curb parking on major thoroughfares.

Roads - BIA

There are many ways to assess need to dollars. The Congress of the United States appropriates the dollars to Indian Reservations through the Bureau of Indian Affairs on an equal basis disregarding the fact that there are immense inequalities due to topography. For example; it may take $100,000 per mile to properly prepare and pave a road on a level, well-drained land where it would require an amount of $150,000 to $200,000 per mile in swampy or mountainous areas due to the water elements. Mountainous areas where underground springs burst out and flow continually; such as an area like Cherokee, North Carolina, require much greater amounts of drain tile, increased road bed preparation, and maintenance. Since the responsibility of road preparation and maintenance of Indian Reservations (except for National and State roads) lies within the realms of the Federal government, a pre-empted power, through the Bureau of Indian Affairs, the only means of redress to the problem of totally inadequate roads (particularly for school bus routes) is to the United States Congress.

It appears that the inequality of the poor and impoverished minority group of Indians residing in the rough and mountainous areas of this nation are further impoverished due to the additional costs of automobile maintenance caused by exceedingly poor roads. A number of new Mutual Help Houses have been constructed on the Cherokee Indian Reservation in the past that are totally inaccessible today because of road conditions.

An application to another federal agency, (Housing and Urban Development), is requested to become funded. The funds from this request would provide gravel to driveways of Indian homes and much relief to Tribal members. Since this application is only tentative, it is imperative that Tribal leaders seek additional means of assistance.

More important is the need to pick up outlying children and transport them to institutions of learning. Our research and consultation with the Roads Department of the Bureau of Indian Affairs in Cherokee, North Carolina, reveals that the following school bus routes are among the total number of roads that are in desperate need of improvements. Having traveled many of these routes in the peak of summer where the water and mud were ankle-deep, it is difficult to understand how the school buses are able to function during the seasons of bad weather. We are told that many children cannot be transported during adverse weather conditions.

At today's costs with no consideration of inflation to bring the Cherokee Reservation's school bus routes up to standard, we present the following table. This table gives the road number, name of road, cost to improve in thousands of dollars, and the projected average daily traffic in 20 years.

TABLE 9

SCHOOL BUS ROUTES

Road No.	Name of Road	Length	Cost to Improve M#	Projected ADT in 20 Years
403	Straight Fork	0.9	74	233
404	Galamore	0.9	104	363
405	Bunches Creek	1.6	270	512
408	Washington Crk.	0.5	45	482
409	Jenkins Creek	1.2	108	360
410	Big Cove Loop	2.8	252	563
411	Stillwell Branch	0.9	0	615
412	Soco Creek	3.0	465	618
414	Big Witch Creek	2.5	338	606
415	McLeans Store	1.4	168	435
418	Hoot Owl Cove	1.0	90	315
419	Blue Wing Church	2.4	111	360
420	Old Gap	0.7	84	555
422	Long Branch	0.5	45	239
423	Peavine Church	0.7	69	363
425	Tow String	2.0	120	240
426	Swimmer Branch	1.3	111	338
427	Owl Branch	0.8	66	540
437	Mary Lambert Farm	0.5	45	150
438	Adams Creek	2.0	240	795
439	Lambert Branch	0.6	117	405
440	Snowbird School	0.7	84	60
449	Macedonia	2.1	210	488
456	Sherrill Cove	0.5	15	225
458	Soggy Hill Crk.	0.6	36	116
459	Bogger Branch	0.6	36	68
461	Lucy Long	0.3	9	45
463	Standingdeer Rd.	0.1	9	68
464	Skitty Branch	0.6	18	30
470	Thomas Road	0.9	83	75
471	Locust Loop	0.4	30	56
472	Fisher Branch	0.6	48	68
473	Dewitt Owl	0.4	24	260
474	Adams Crk. Loop	0.6	0	45
477	Mt. Noble Road	0.6	54	518
1236	Old No. 4	4.2	545	606
1410	Big Cove	9.1	303	3,000
1413	Wrights Creek	3.7	315	1,599
1445	Goose Creek	2.0	75	1,050
Total on System			4,816	
÷ 20			240	

Total System 56.2 Bus Routes
Total Paved 20.3 Miles

Floods

Relatively few areas of the total Reservation are subject to serious flooding; however, most of the valley land that is best suited for development lies within the floodplain along both sides of the Oconaluftee River and Soco Creek. Much of the development in Cherokee has taken place in the area that lies within the floodway which is defined as the channel of the stream, and a considerable amount of development has taken place in the floodplain. It is important that the Tribe know and understand the following terms for use in discussion on flood insurance.

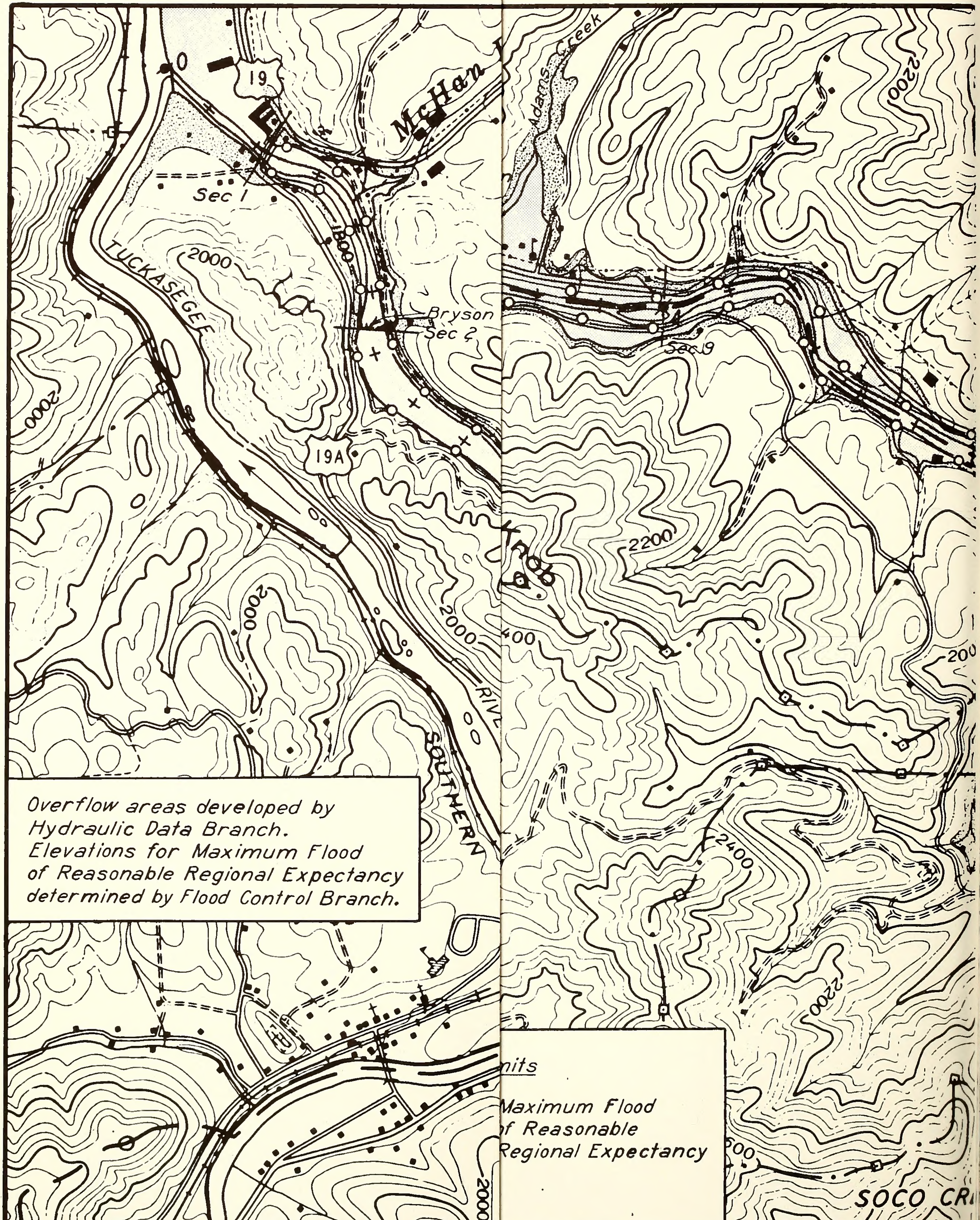
Flood 100-Year Recurring Interval. A hypothetical flood anticipated to be reached or exceeded on the average of once during a 100-year period. For the purpose of this report, the 100-year recurring interval flood is shown on Plates 8, 9, 11, and 12. "Floods on Oconaluftee and Tuckasegee Rivers and Soco Creek in vicinity of Cherokee, North Carolina."

Flood Profile. A graph showing the relationship of the floodwater surface elevation for a flood event of a specified recurrence interval to the stream bed and other significant natural and man-made features along a stream.

Flood Stage. The elevation of the floodwater surfaces above an officially established datum plane.

Flood Fringe Areas. Those areas outside the proposed floodway district that lie below the elevation of the 100-year recurring interval flood.

Floodproofing. Measures designed to prevent or reduce flood damage for those uses which cannot be removed from, or which of necessity



Overflow areas developed by Hydraulic Data Branch. Elevations for Maximum Flood of Reasonable Regional Expectancy determined by Flood Control Branch.

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Maximum Flood
f Reasonable
Regional Expectancy

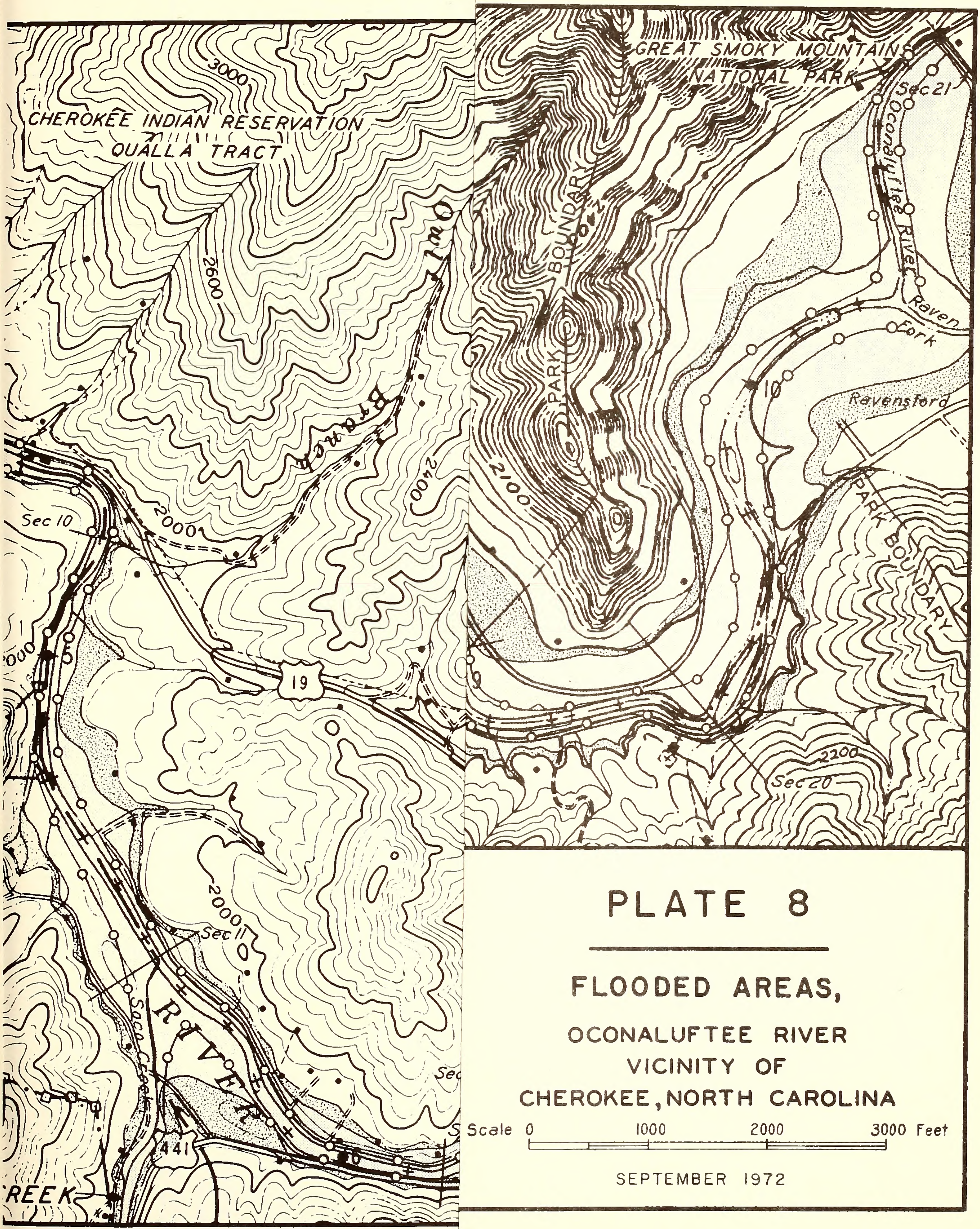


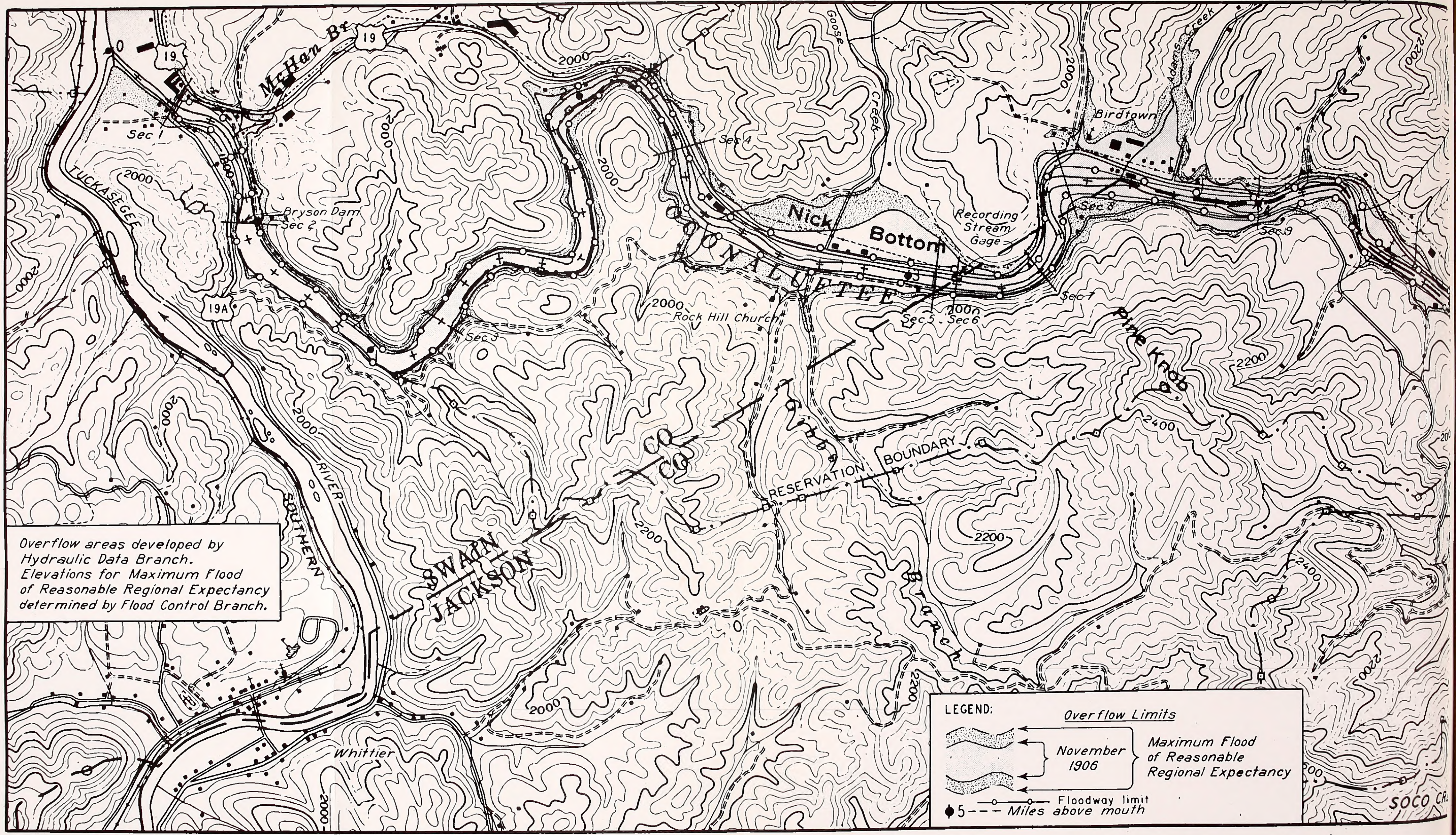
PLATE 8

FLOODED AREAS,

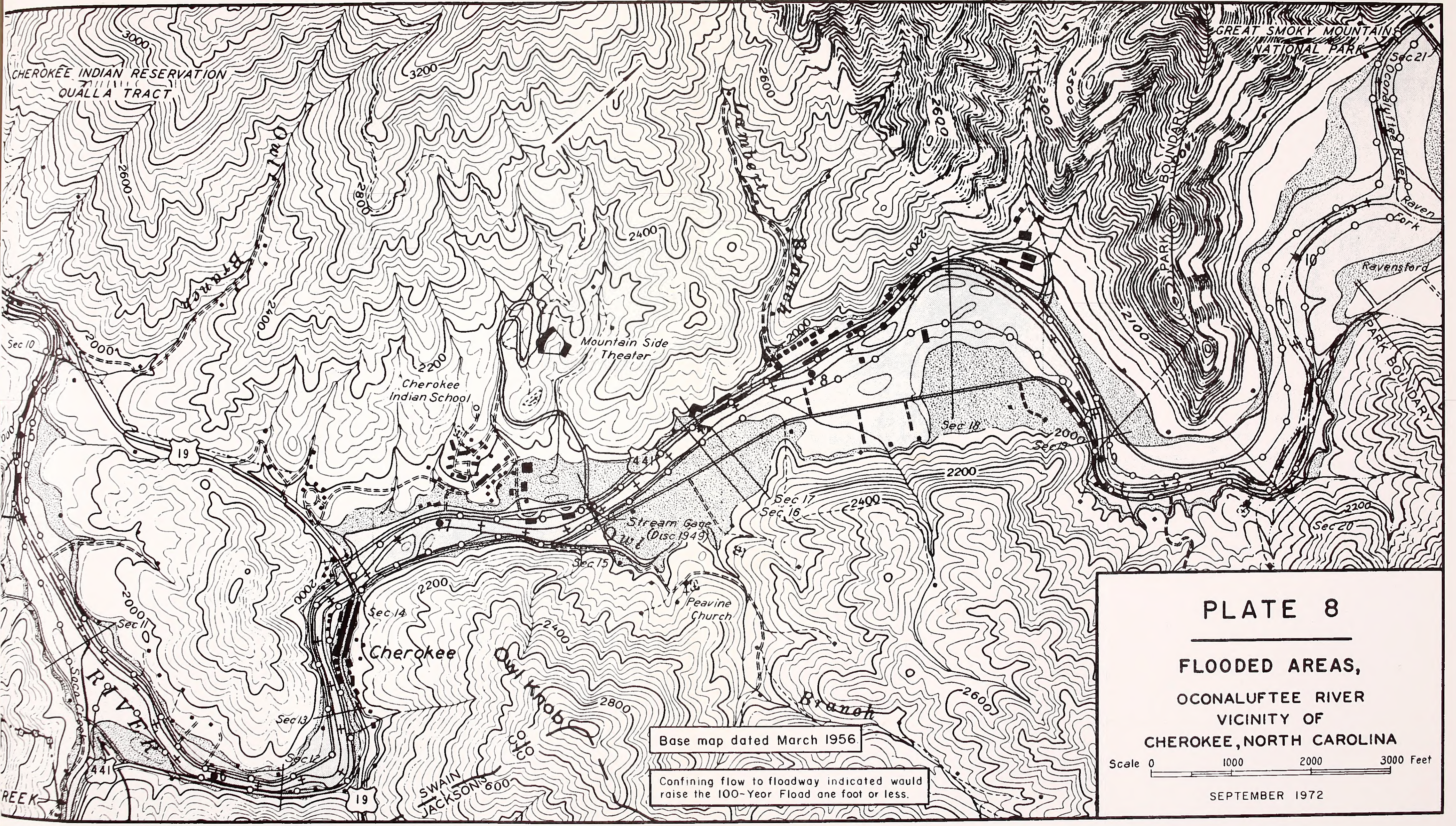
OCONALUFTEE RIVER
VICINITY OF
CHEROKEE, NORTH CAROLINA

Scale 0 1000 2000 3000 Feet

SEPTEMBER 1972



Overflow areas developed by Hydraulic Data Branch. Elevations for Maximum Flood of Reasonable Regional Expectancy determined by Flood Control Branch.



Base map dated March 1956

Confining flow to floodway indicated would raise the 100-Year Flood one foot or less.

PLATE 8

FLOODED AREAS,

OCONALUFTEE RIVER
VICINITY OF
CHEROKEE, NORTH CAROLINA

Scale 0 1000 2000 3000 Feet

SEPTEMBER 1972

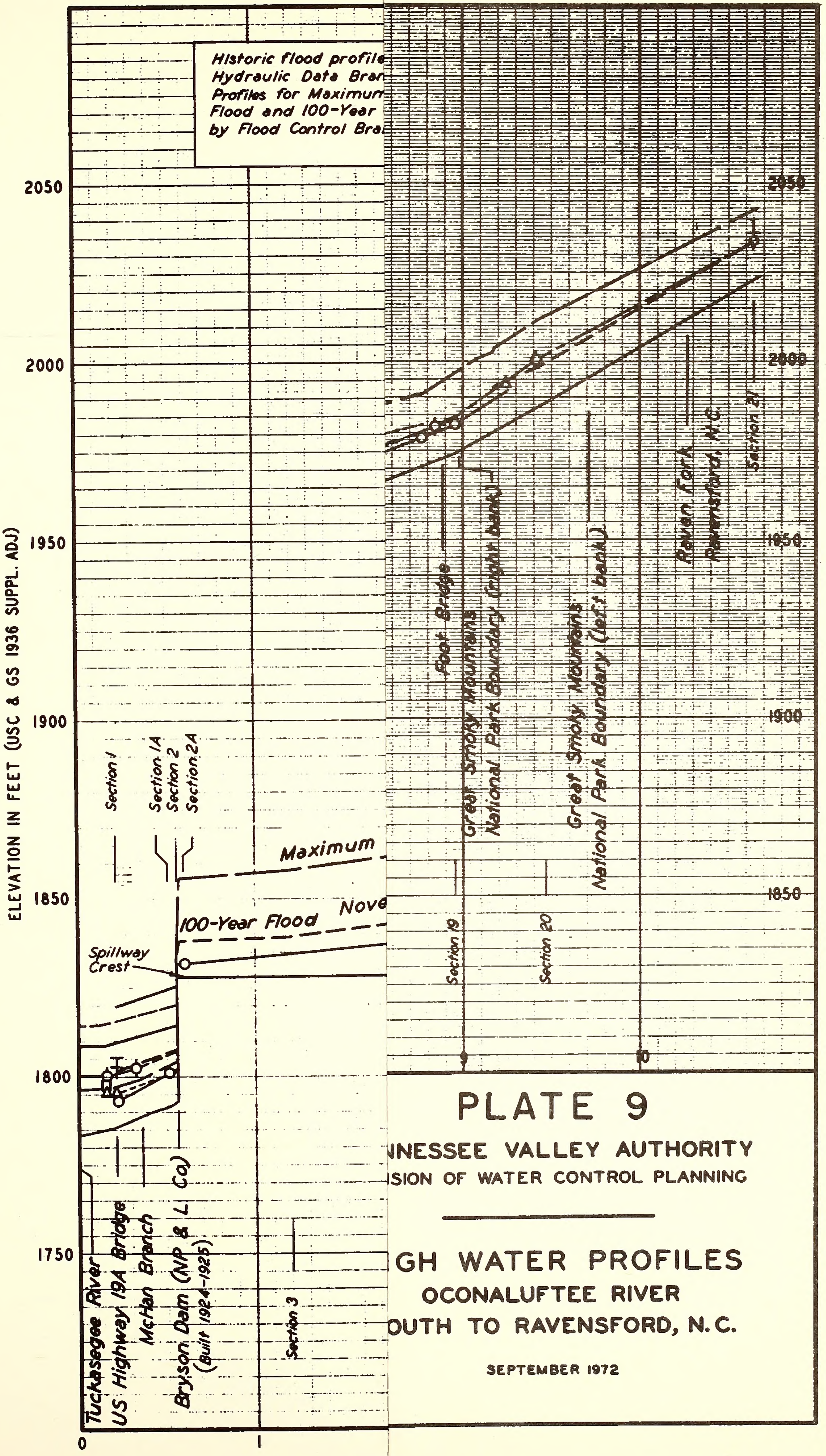


PLATE 9

NNESSEE VALLEY AUTHORITY
SION OF WATER CONTROL PLANNING

GH WATER PROFILES
OCONALUFTEE RIVER
OUTH TO RAVENSFORD, N.C.

SEPTEMBER 1972

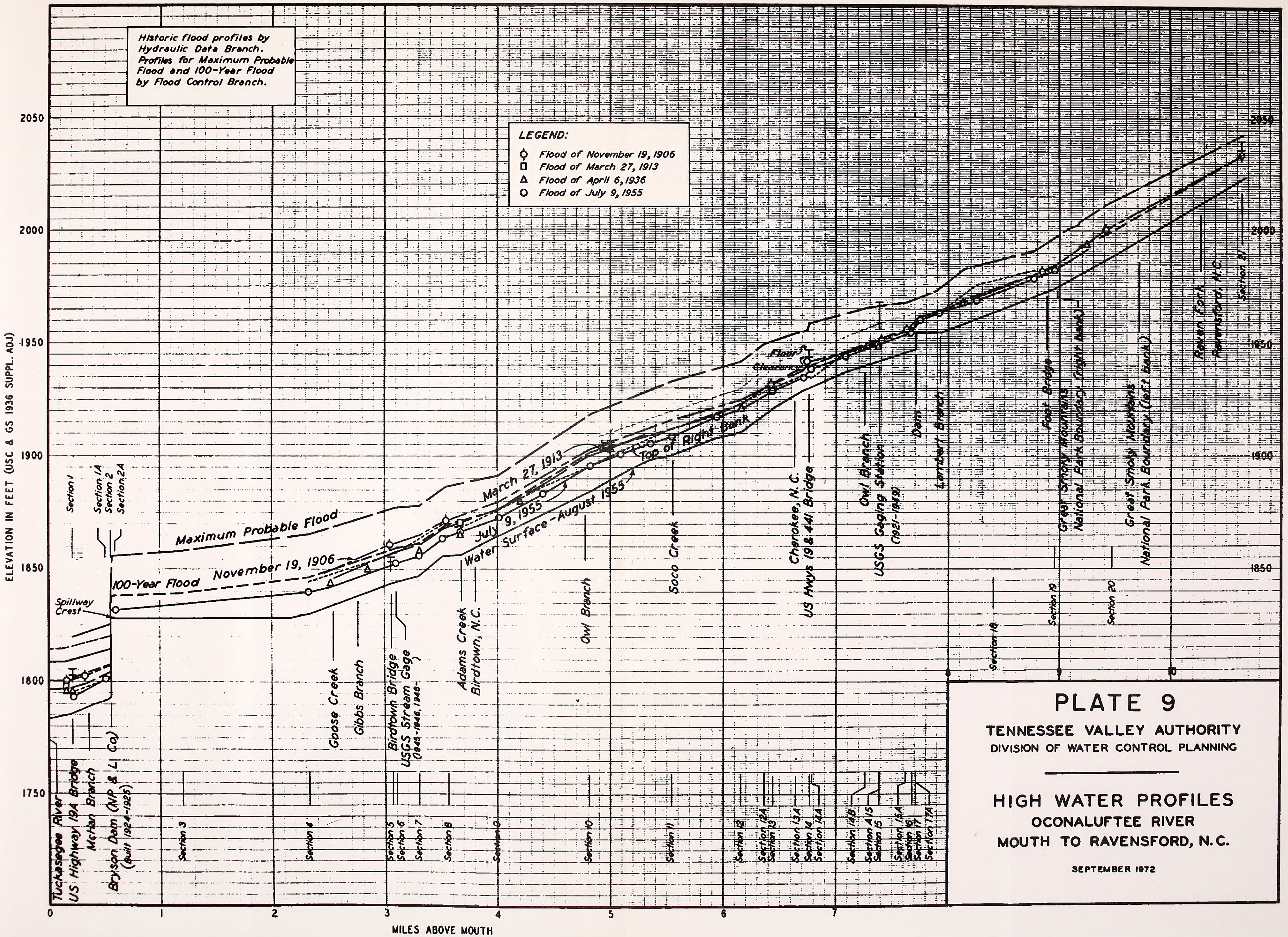
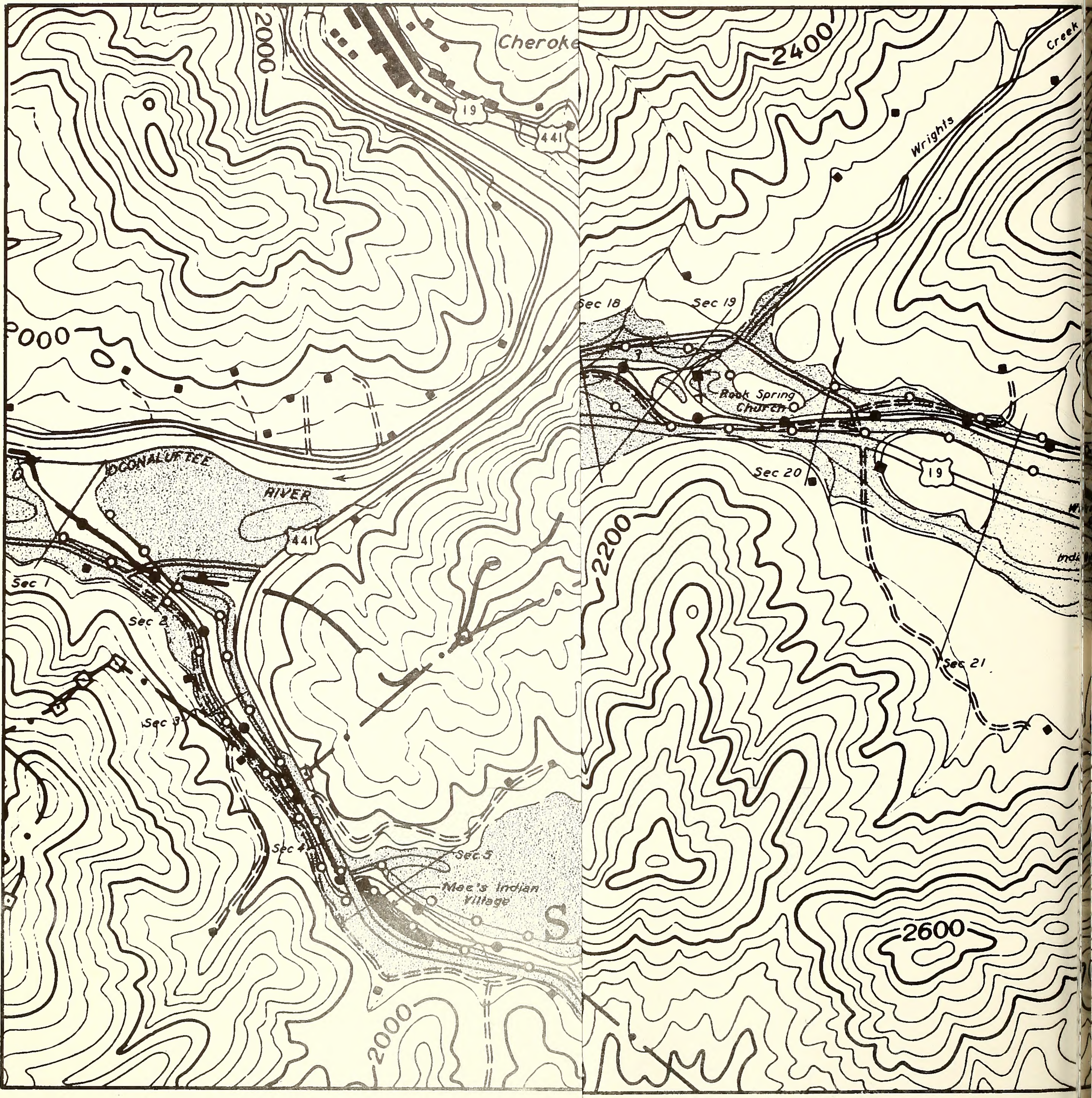


PLATE 9

TENNESSEE VALLEY AUTHORITY
DIVISION OF WATER CONTROL PLANNING

HIGH WATER PROFILES
OCONALUFTEE RIVER
MOUTH TO RAVENSFORD, N.C.

SEPTEMBER 1972


Cheroke
2000
19
441
2400
Creek
Wrights
2000
Sec 18
Sec 19
Rock Spring
Church
OCONALUFTEE
RIVER
441
Sec 1
Sec 2
Sec 20
19
2200
Sec 21
Sec 3
Sec 4
Sec 5
Mae's Indian
Village
S
2600
2000

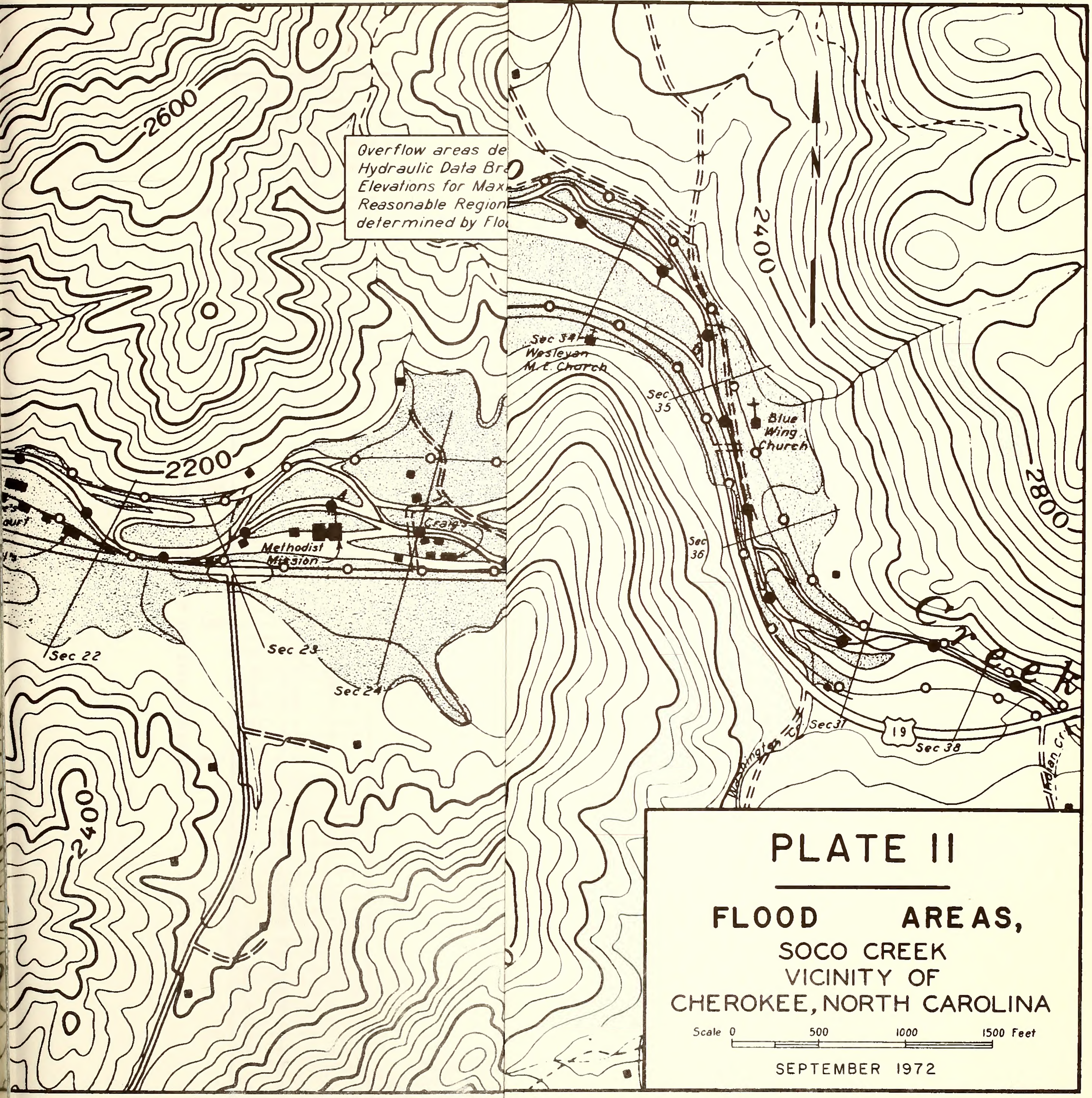


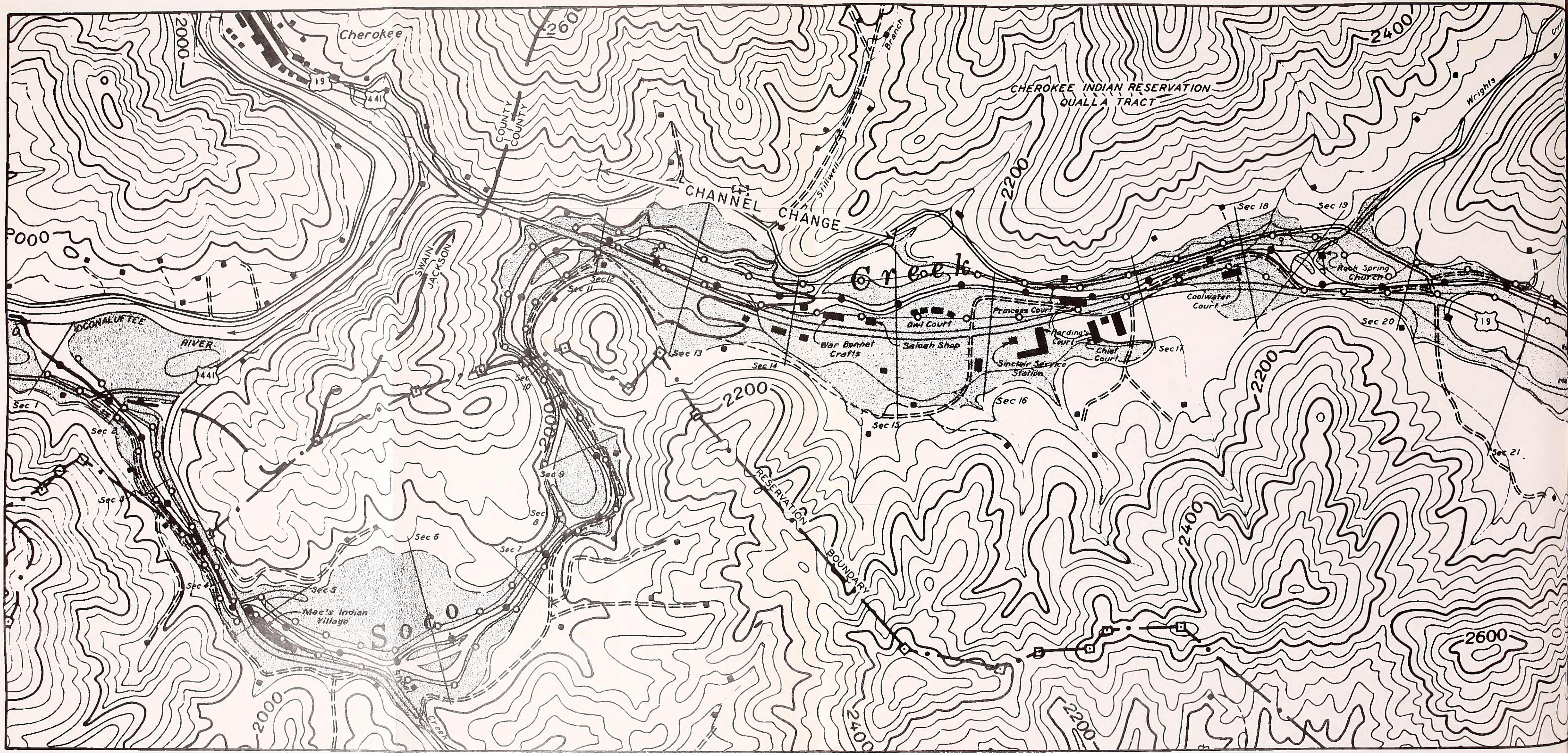
PLATE II

FLOOD AREAS,

SOCO CREEK
VICINITY OF
CHEROKEE, NORTH CAROLINA

Scale 0 500 1000 1500 Feet

SEPTEMBER 1972


Cherokee
2000
2600
19
441
COUNTY
COUNTY
SWAIN
JACKSON
CHANNEL CHANGE
Stillwell
Branch
CHEROKEE INDIAN RESERVATION
QUALLA TRACT
2400
Wrights
2200
2000
OCONALUFTEE
RIVER
Creek
Sec 1
Sec 2
Sec 3
Sec 4
Sec 5
Mac's Indian Village
Soco
Creek
Sec 6
Sec 7
Sec 8
Sec 9
Sec 10
Sec 11
Sec 12
Sec 13
Sec 14
Sec 15
Sec 16
Sec 17
Sec 18
Sec 19
Sec 20
Sec 21
War Bonnet Crafts
Owl Court
Saloah Shop
Princess Court
Harding's Court
Chief Court
Sinclair Service Station
Coolwater Court
Rock Spring Church
RESERVATION BOUNDARY
2200
2400
2600

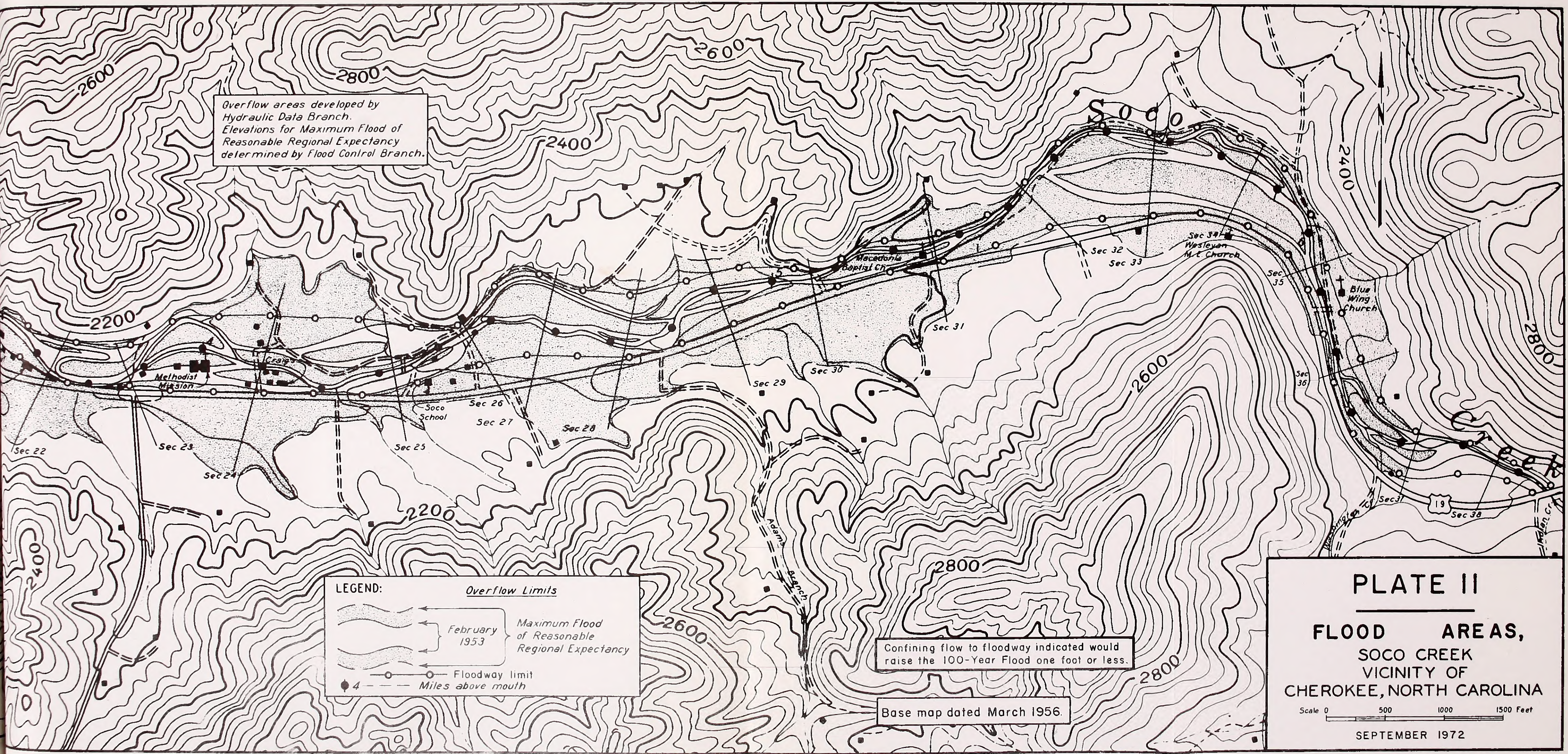


PLATE II

FLOOD AREAS,

SOCO CREEK
VICINITY OF
CHEROKEE, NORTH CAROLINA

SEPTEMBER 1972

Overflow areas developed by Hydraulic Data Branch. Elevations for Maximum Flood of Reasonable Regional Expectancy determined by Flood Control Branch.

Confining flow to floodway indicated would raise the 100-Year Flood one foot or less.

Base map dated March 1956.

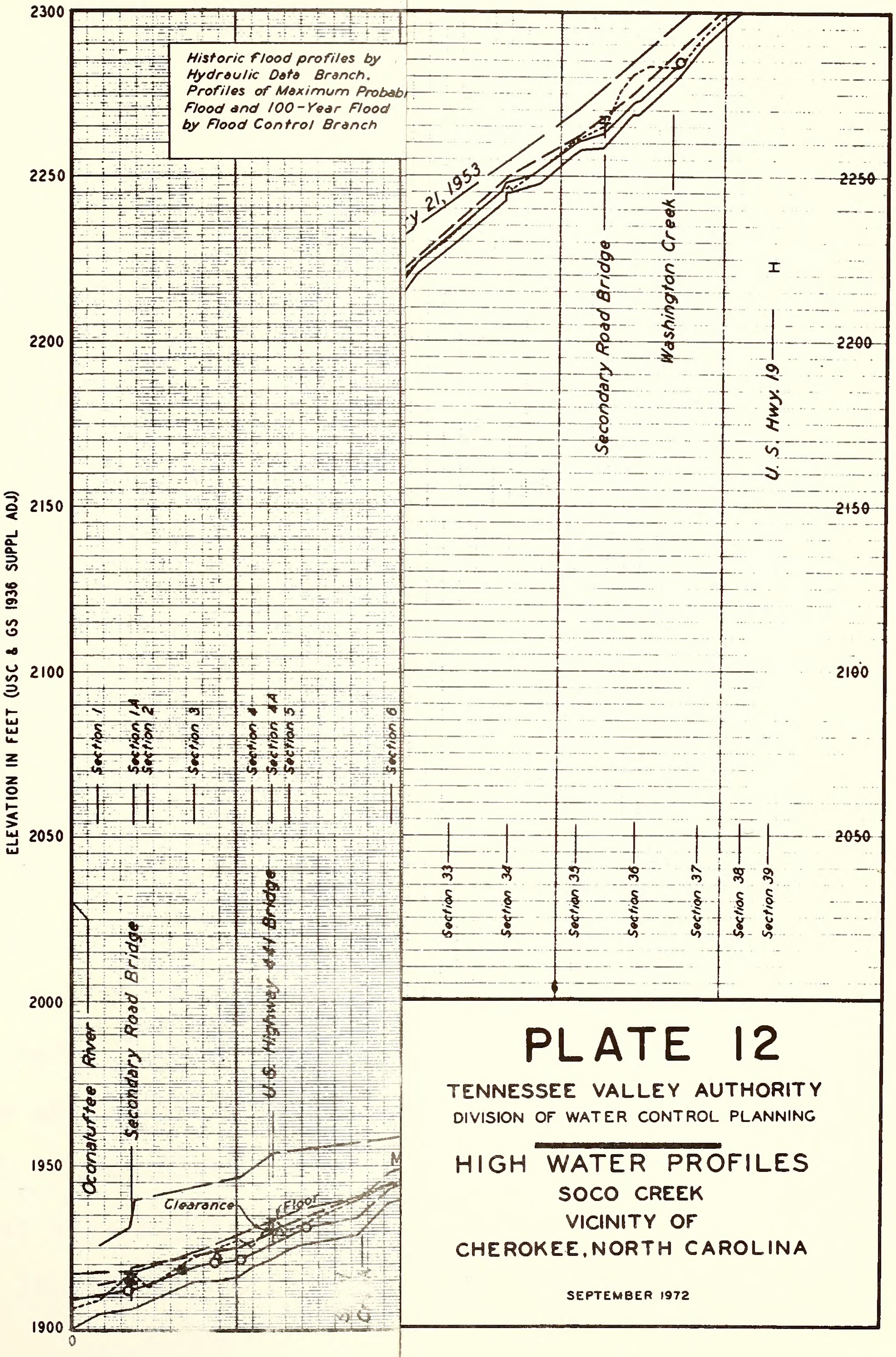


PLATE 12

TENNESSEE VALLEY AUTHORITY
DIVISION OF WATER CONTROL PLANNING

HIGH WATER PROFILES
SOCO CREEK
VICINITY OF
CHEROKEE, NORTH CAROLINA

SEPTEMBER 1972

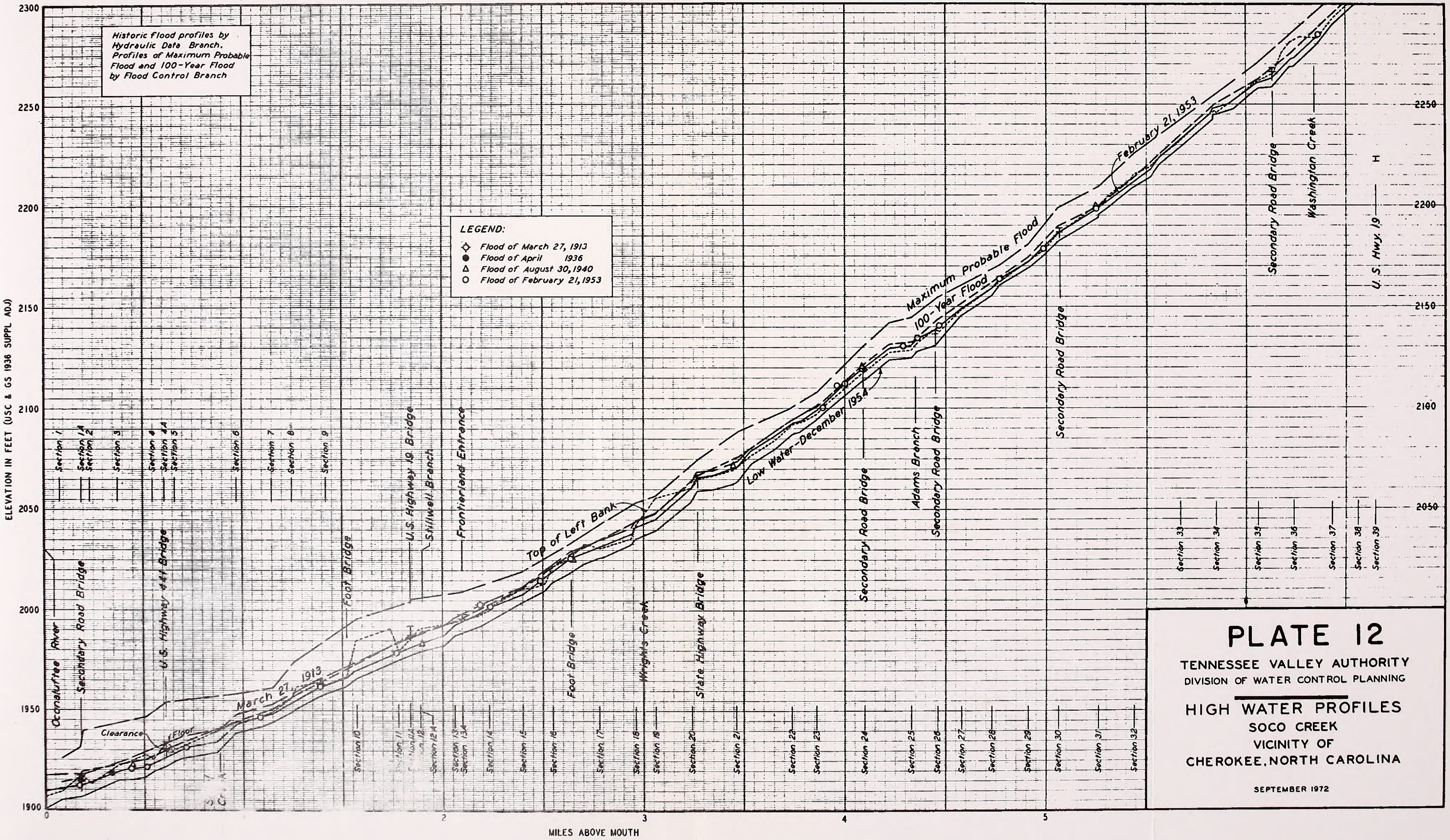


PLATE 12

TENNESSEE VALLEY AUTHORITY
DIVISION OF WATER CONTROL PLANNING

HIGH WATER PROFILES
SOCO CREEK
VICINITY OF
CHEROKEE, NORTH CAROLINA

SEPTEMBER 1972

must be erected on, floodplains ranging from structural modifications through installation of special equipment or materials to operation and management safeguards such as the following: underpinning of floors; permanent sealing of all exterior openings; use of masonry construction; erection of permanent water-tight bulkheads, shutters, and doors; treatment of exposed timbers; elevation of flood-vulnerable utilities; using of waterproof cement; adequate fuse protection; anchoring of buoyant tanks; sealing of basement walls; installation of pumps; placement of automatic swing-check valves; installation of seal-tight windows and doors; installation of wire-reinforced glass; location and elevation of valuable items; waterproofing, disconnecting, elevation, or removal of all electrical equipment; the avoidance of the use of flood vulnerable areas; temporary removal or waterproofing of merchandise; postponement of orders or rescheduling of freight shipments; operation of emergency pump equipment; closing backwater sewer valves; placement of watertight bulkheads; counter flooding; erection of sandbag levees; and the shoring of weak walls or other structures.

Floodway. The natural channel of a stream and those portions of the overbank areas necessary to convey the waters of the 100-year recurring interval flood without unduly causing an increase in flood stages.

Care needs to be exercised when reading the flood maps and profiles. All of the shaded area is not in the floodway, but rather shows the boundaries of the floodplain. The floodway is the portion of the stream that lies within the floodplain and is shown on the maps between the lines with circles.

Another misconception is the use of the flood fringe areas (outside the lines with circles). The flood maps are designed in intent to accommodate development which is properly protected. What this means is that if all the shaded areas outside the floodway or in other words "confining flow to the floodway (indicated on the maps) would raise the 100-year flood one foot or less.

Since floods and the damage they cause have been increasing in recent years, relief has been made available in the form of Federally subsidized flood insurance as authorized by the National Flood Insurance Act of 1968. The insurance is now available at a very low cost to individual property owners; but before Tribal members can participate in this program, the necessary resolutions and/or ordinances must be adopted. There are three required resolutions that should be considered and are presented for review by the Planning Board and the Tribal Council. A flood ordinance which defines requirements and enforcement procedures is equally necessary and could contain some of the suggestions as shown at the end of this chapter.

Suggested Flood Area Regulations

Flood Fringe Area Regulations. Areas lying outside the floodway district but within the area covered by the 100-year recurring interval flood shall be subject to the following regulations:

a. No building or structure shall be erected and no existing building or structure shall be extended or moved unless the main floor of said building or structure is placed above the elevation of the 100-year recurring interval flood. No basement floor or other floor shall be constructed below or at a lower elevation than the main floor.

b. Foundations of all structures shall be designed to withstand flood conditions at the site.

c. Land may be filled within these flood fringe areas provided such fill extends twenty (20) feet in all directions beyond the limits of any structures erected thereon.

F-1 Floodway District. The F-1 Floodway District is intended for use in areas within the Reservation of the Eastern Band of Cherokee Indians which are subject to flooding. The objective of the F-1 District is to impose restrictions upon the use of lands which flow within the boundaries of the Cherokee Reservation in North Carolina, thereby protecting persons, property, and the community from the dangers arising from periodic flooding within these areas. The floodway lands in the Reservation will carry the abnormal water flows in times of flood by preventing the encroachment of incompatible land uses within these floodways which would unduly increase flood water heights and property damage.

Conditional Uses. In the F-1 Floodway District, the following uses may be permitted subject to a finding by the Board of Adjustment that the conditions listed below shall be met. The Board of Adjustment shall possess the authority to impose such conditions upon any proposed uses as it deemed necessary to protect the public interest.

a. Parking lots and open loading areas.

b. Open-type public and private recreation facilities, such as parks, golf courses, driving ranges, and drive-in theaters provided that no building or permanent structures are erected in the F-1 District.

c. Storage yards for equipment and materials not subject to major damage by floods provided such use is auxiliary to uses permitted in an adjoining district and materials do not include inflammables such as gasoline.

d. Boat docks or marinas.

e. Circus, carnival, or similar transient amusement enterprises.

f. Utilities, road and railroad bridges, and electric and other transmission lines.

Use Prohibited. In the F-1 Floodway District all uses except those uses or their accessory uses permitted upon review and approval by the Board of Adjustment are prohibited. All dwelling units including mobile homes utilized as dwellings are specifically prohibited in the F-1 District.

Approval of Board of Adjustment. No permit shall be issued for any use within the floodway district until the plans for such construction or use have been submitted to the Board of Adjustment and approval is given in writing for such construction or use. The Board of

Adjustment may make its approval subject to such conditions necessary to carry out the purpose of this district. In its review of plans submitted, the Board of Adjustment shall be guided by the following standards keeping in mind that the purpose of this district is to prevent encroachment into the floodway which will unduly increase flood heights and endanger life and property.

a. Any uses permitted shall be a type not appreciably damaged by floodwaters provided no structures for human habitation shall be permitted.

b. No filling of land shall be permitted except as required for streets and roads to raise them so that such streets and roads will be at an elevation no lower than two (2) feet below the elevation of the 100-year recurring interval flood.

Small Streams. Any structure proposed to be located outside the Floodway District but within fifty (50) feet of any main drainage channel or stream (hereafter referred to as stream) within the Cherokee Reservation must be approved by the Cherokee Board of Adjustment. The Board of Adjustment or other designated public official shall determine on the basis of the area of the watershed and probable runoff, the opening needed for the stream or how close a structure may be built to the stream in order to assure adequate space for the flow of floodwater. However, no building shall be permitted within ten (10) feet of the top of the bank of any stream.

a. Where in the opinion of the Board of Adjustment, topographic data engineering and other studies are needed to determine the effects of flooding on a proposed structure and/or the effect of the structure on the flow of water, the Board of

Adjustment may require the applicant to submit such data or other studies prepared by competent engineers or other technical people.

b. The granting of approval of any use shall not constitute a representation, guarantee, or warranty of any kind or nature by the Cherokee Tribal Council on the Cherokee Board of Adjustment or by any officer or employee of either thereof, of the practicality or safety of any use proposed and shall create no liability upon or cause action against such public body, officer, or employee for any damage that may result thereto.

c. Areas lying outside the floodway district but within the flood fringe area shall be subject to the regulations outlined in the section titled "Flood Fringe Area Regulations."

Council House
Cherokee, North Carolina
October 28, 1975

Resolution Number 1

WHEREAS, the Eastern Band of Cherokee Indians has adopted and is enforcing the Southern Building Code; and

WHEREAS, the Bureau of Indian Affairs, Department of Interior, U.S. Government, prohibits any person, firm, or corporation from erecting, constructing, enlarging, altering, repairing, improving, moving, or demolishing any building or structure without first obtaining a separate permit for each building or structure from the Cherokee Indian Agency, BIA, Department of Interior, and

WHEREAS, the Realty Office of the Cherokee Indian Agency and the Tribal Business Committee must examine all plans and specifications for the proposed construction when application is made to the Realty Office for a permit.

NOW, THEREFORE, BE IT RESOLVED by the Tribal Council of the Eastern Band of Cherokee Indians as follows:

1. That the Realty Office at the Cherokee Indian Agency shall require the issuance of a permit for any excavation, grading, fill, or construction in the community; and

2. That the Realty Office and the Business Committee of the Cherokee Reservation (BIA) shall require review of each permit application to determine whether the proposed site and improvements will be reasonably safe from mudslides. If a proposed site and improvements are in a location that may have mudslide hazards, a further review must be made by persons qualified in geology and soils engineering; and the proposed new construction, substantial improvement, or grading must (i) be adequately protected against mudslide damage and (ii) not aggravate the existing hazard.

Eastern Band of Cherokee Indians

By: ____________________________
John A. Crowe
Principal Chief

Attested by: ______________________

Council House
Cherokee, North Carolina
October 28, 1975

Resolution Number 2

WHEREAS, the Eastern Band of Cherokee Indians has adopted and is enforcing the Southern Building Code; and

WHEREAS, the Bureau of Indian Affairs, Department of Interior, U. S. Government, prohibits any person, firm, or coporation from erecting, constructing, enlarging, altering, repairing, improving, moving, or demolishing any building or structure without first obtaining a separate permit for each building or structure from the Cherokee Indian Agency, BIA, Department of Interior, and.

WHEREAS, the Realty Office of the Cherokee Indian Agency and the Tribal Business Committee must examine all plans and specifications for the proposed construction when application is made to them for a building permit.

NOW, THEREFORE, BE IT RESOLVED, by the Tribal Council of the Eastern Band of Cherokee Indians as follows:

1. That the Business Committee and the Realty Office of the Cherokee Indian Agency shall review all building permit applications for new construction or substantial improvements to determine whether proposed building sites will be reasonably safe from flooding. If a proposed building site is in a location that has a flood hazard, any proposed new construction or substantial improvement (including prefabricated and mobile homes) must (i) be designed (or modified) and anchored to prevent floatation, collapse, or latteral movement of the structure, (ii) use construction materials and utility equipment that are resistant to flood damage, and (iii) use construction methods and practices that will minimize flood damage, and

2. That the Business Committee, the Realty Office, and the Tribal Council shall review subdivision proposals and other proposed new developments to assure that (i) all such proposals are consistent with the need to minimize flood damage, (ii) all public utilities and facilities such as sewer, gas, electrical, and water systems are located, elevated, and constructed to minimize or eliminate flood damage, and (iii) adequate drainage is provided so as to reduce exposure to flood hazards; and

3. That the Tribal Council, shall require new or replacement water supply systems and/or sanitary systems to be designed to minimize or eliminate infiltration of flood waters into the

systems and discharges from the system into flood waters, and require on-site waste disposal systems to be located so as to avoid impairment of them or contamination from them during flooding.

Eastern Band of Cherokee Indians

By: ________________________
John A. Crowe
Principal Chief

Attested by: ____________________

Council House
Cherokee, North Carolina
October 28, 1975

Resolution Number 3

WHEREAS, certain areas of the Cherokee Indian Reservation in North Carolina are subject to periodic flooding and/or mudslides from streams and rivers, causing serious damages to properties within these areas; and

WHEREAS, relief is available in the form of Federally subsidized flood insurance as authorized by the National Flood Insurance Act of 1968; and

WHEREAS, it is the intent of this Council to require the recognition and evaluation of flood and/or mudslide hazards in all official actions relating to land use in the floodplain and/or mudslide hazards; and

WHEREAS, this body has the legal authority to adopt land use and control measures to reduce future flood losses pursuant to the North Carolina General Statutes, Chapter ___, Article ___, Part ___;

NOW, THEREFORE, BE IT RESOLVED, that this Council hereby:

1. Assures the Federal Insurance Administration that it will enact as necessary, and maintain in force for those areas having flood or mudslide hazards, adequate land use and control measures with effective enforcement provisions consistent with the criteria set forth in Section 1910 of the National Flood Insurance Program Regulations; and

2. Vests the Business Committee of the Eastern Band of Cherokee Indians with the responsibility, authority, and means to:
   (a) Delineate or assist the Administrator, at his request, in delineating the limits of the areas having special flood and/or mudslide hazards on available local maps of sufficient scale to identify the location of building sites.
   (b) Provide such information as the Administrator may request concerning present uses and occupancy of the floodplain and/or mudslide area.
   (c) Cooperate with Federal, State, and local agencies and private firms which undertake to study, survey, map, and identify floodplain or mudslide areas, and cooperate with neighboring communities with respect to management of adjoining floodplain and/or mudslide area management measures.

3. Appoints the Realty Office of the Cherokee Indian Agency to maintain for public inspection and to furnish upon request a record of elevations (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially

improved structures located in the special flood hazard areas. If the lowest floor is below grade on one or more sides, the elevation of the floor immediately above must also be recorded.

4. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the program.

Eastern Band of Cherokee Indians

By: ______________________

John A. Crowe
Principal Chief

Attested by: ______________________

Land Development Plan (Built Up Areas)

The Cherokee Village Land Development Plan provides proposals as to how land should be used as expansion and development occur within the planning area during the next twenty-year period.

The land development plan holds no legal status, but does serve as the basis for more definitive legislative and administrative measures such as subdivision regulations, housing code compliance programs, zoning, and utility extension policies. The plan should serve as a guide for both public and private development within the planning area. As technical, sociological, and economic changes occur within the subject planning area, the land development plan should be modified and revised as such changes warrant.

Future land uses within the Cherokee planning area are grouped into seven major categories--residential, commercial, industrial, governmental, semipublic, vacant, and land within the floodplain. These classifications were used on the land development maps to insure flexibility and simplicity in the plan.

As discussed earlier in this plan, there is sufficient data available to make meaningful long-range population projections for the Eastern Band of Cherokee Indians. As noted in the chapter on housing, development of some of the mountainous areas would involve an influx of Cherokees wanting to return to the Reservation and is contingent upon the availability of the necessary utilities. The policy decisions of the Cherokee Planning Board and the Cherokee Tribal Council concerning roads and utilities in these areas will largely determine the rate of in-migration and growth.

Necessarily, this plan places greater emphasis upon locational standards for future development than upon quantitative standards or exactly how much land will be needed. Locational standards enforced through a zoning ordinance would enable the Tribe to bring about compatibility among different existing land uses. Likewise, locational standards reflected in a zoning ordinance will allow the Eastern Band of Cherokee Indians to protect a very valuable resource- its scenic undeveloped mountains and waterways.

Built Up Area Descriptions

The built up area is described as the land along U.S. Route 19 east of Cherokee Gap through Soco Valley up to and including Holiday Inn Travel Park Campground. (Maps 17 and 18)

Lands west of Cherokee Gap along U.S. Route 19 through and including the main village of Cherokee (here a portion of highway serves U.S. Route 441 as well as U.S. Route 19.) is shown on Map .

Lands along U.S. Route 441 from the Great Smoky Mountains National Park boundary south to its intersection with U.S. Route 19, (Route 441 parallels the Oconaluftee River) Map 16.

Lands along N.C. Route 1368 (locally known as the "Back Side of the River or Acquone Road) from its intersection in Cherokee Village with U.S. 441 and U.S. 19 going north up to the third bridge crossing of the Oconaluftee River (or up to and including Saunooke Motel) Map 16.

Classifications

The categories of land usage for the built up area are primarily based on a functional classification, that is, according to their function in serving man's needs and well being.

1. Residential - The predominant use of the structures on the land is devoted to the housing of individuals, families, and groups of people. This category includes structures containing one or more dwelling units, including single and multiple-family household units, mobile homes and mobile home parks.
2. Commercial - Establishments which supply commodities and/or services to the general public. Any activity dealing in retail or wholesale trade or establishments of a business character which supply general needs of an intangible nature to the public.
3. Industrial - Establishments which are engaged in the manufacture or storage of tangible products. Those activities which are engaged in the processing or fabrication of raw materials or production of commodities or materials.
4. Governmental - Structures which are predominantly used for services or activities that are financed by federal, state, local, or Tribal funds. In the case of the Eastern Band of Cherokee Indians governmental includes schools, hospital, clinic, civic center, community services, post office, sales office for fishing permits and a conglomerate array of structures utilized by the different departments of the Tribe, the Bureau of Indian Affairs, and the Public Health Service. Included in this category is government housing for Bureau of Indian Affairs personnel and for U. S. Public Health Service personnel.
5. Semipublic - Includes such land uses as: (a) social and cultural activities, (b) churches, and (c) utilities. These facilities provide for the physical, mental and spi-

ritual development and cultural enlightenment of the Reservation citizens.

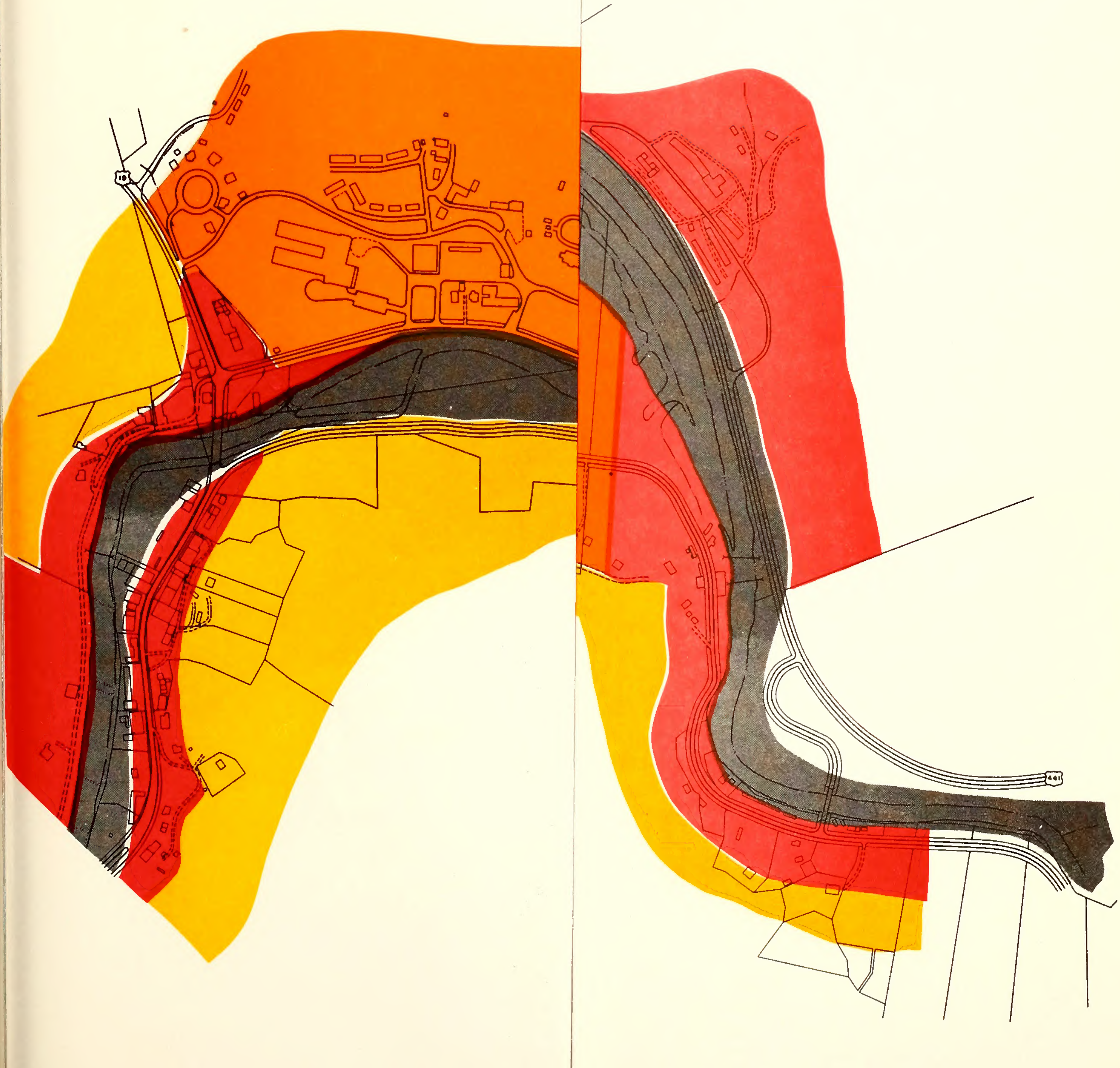
6. Floodplain - The floodway designation shows that portion of the river bank which should be left undeveloped to allow for the safe passage of flood waters. The adverse effects of development in the flood fringe, the remaining portion of the floodplain, can be minimized by adequate floodproofing and zoning use restrictions.
7. Vacant Land - Those areas of land on which a functional use is not evident except farming, pasture, and undisturbed lands. This classification also includes rivers, streams, roads, and some forested lands. These parcels are scattered throughout the built up areas of Cherokee and a few large holdings occur along the periphery.

LAND DEVEL
BUILT-UP AR

EAST AND
OCONALUFTE

200 0 200 400 600 800
SCALE OF FEET

MAP 16



ritual development and cultural enlightenment of the Reservation citizens.

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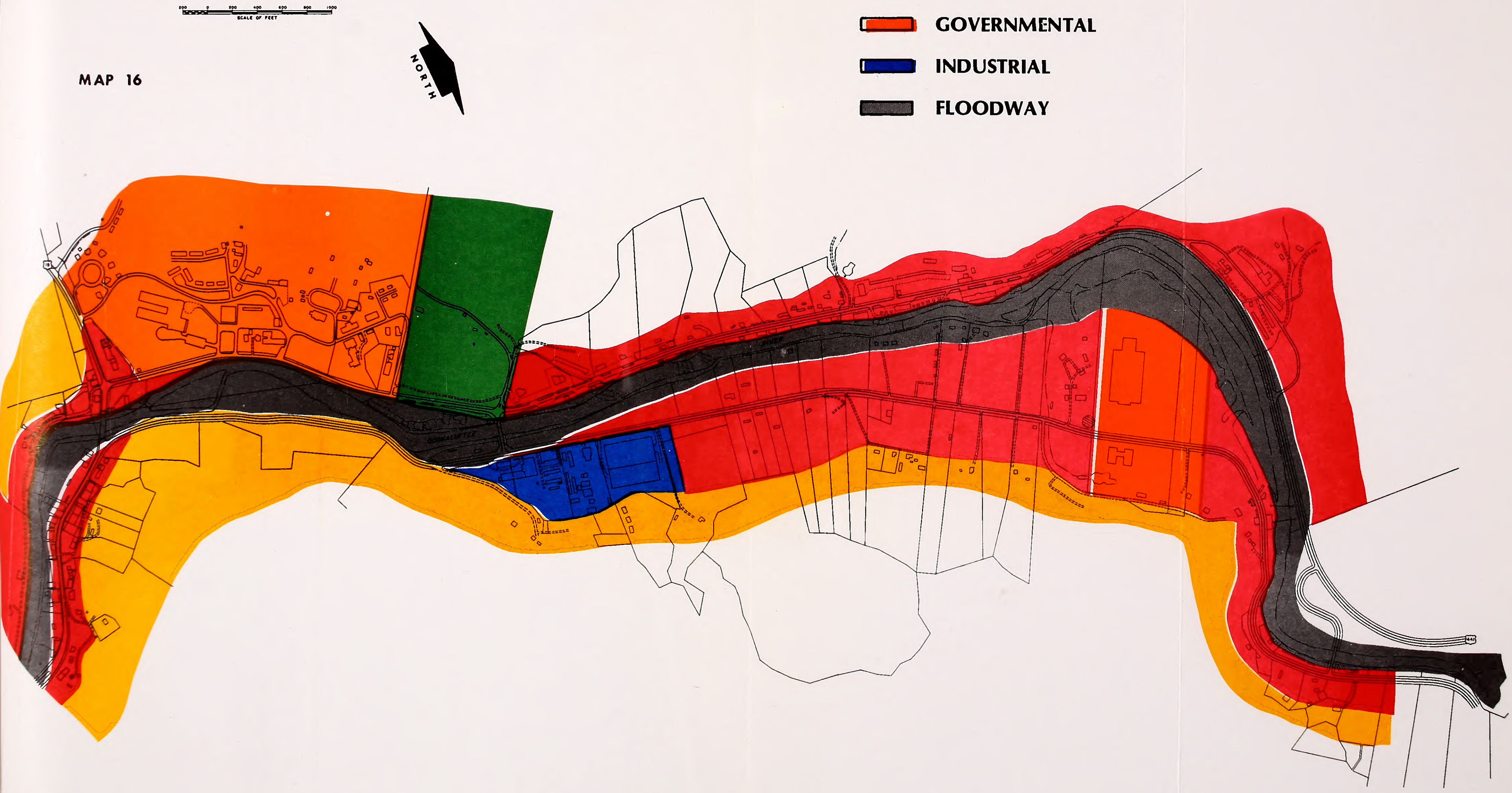
LAND DEVELOPMENT PLAN
BUILT-UP AREAS

EAST AND WEST SIDES OF THE OCONALUFTEE RIVER

MAP 16

LEGEND

🟨	RESIDENTIAL
🟥	COMMERCIAL
🟩	SEMI-PUBLIC
🟧	GOVERNMENTAL
🟦	INDUSTRIAL
▨	FLOODWAY



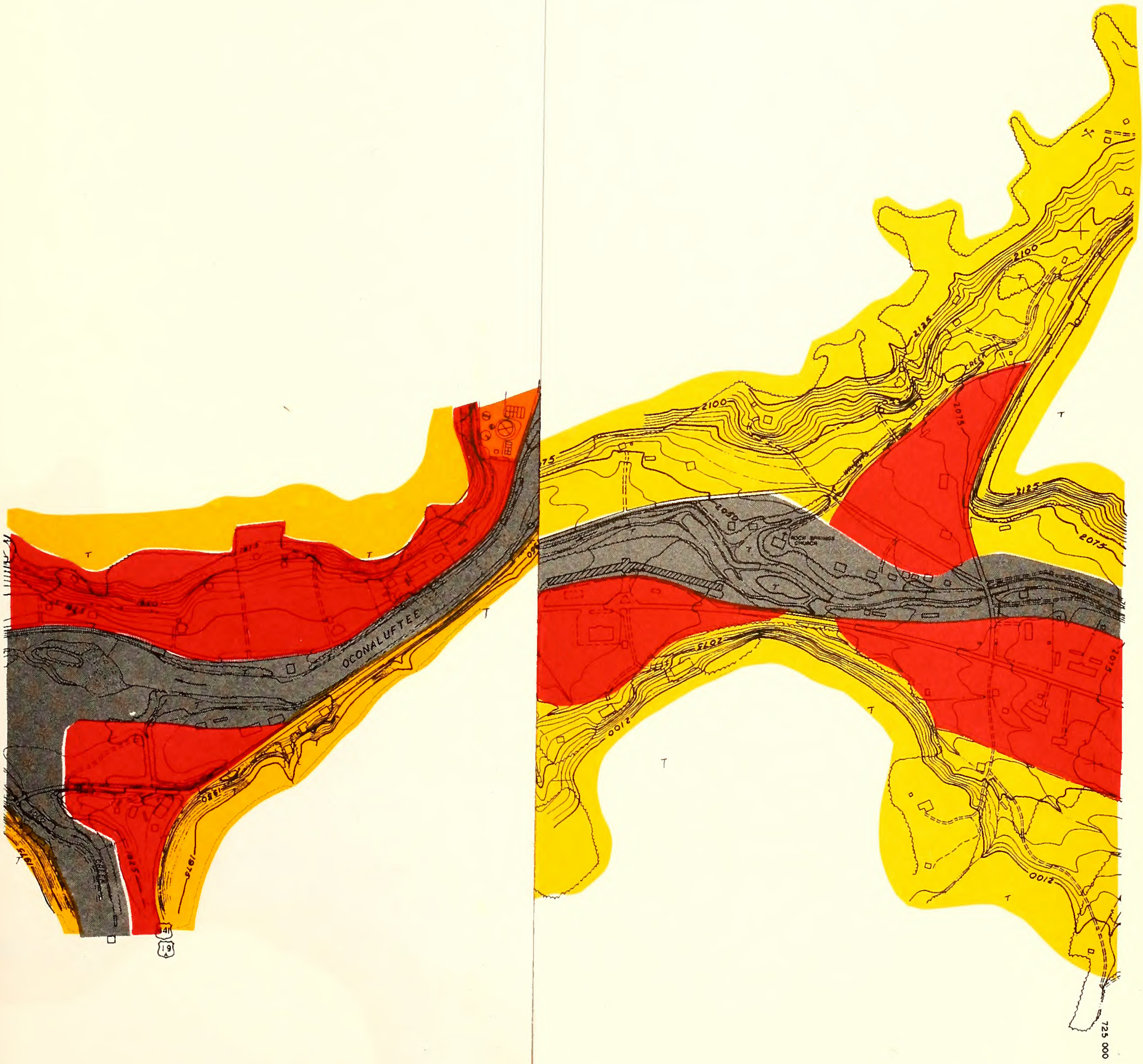
LAND DEVELOPMENT
BUILT-UP AREAS

SOCO VALLEY - WEST

200 0 200 400 600 800 1000

SCALE IN FEET

MAP 17



LAND DEVELOPMENT PLAN
BUILT-UP AREAS

SOCO VALLEY - WEST

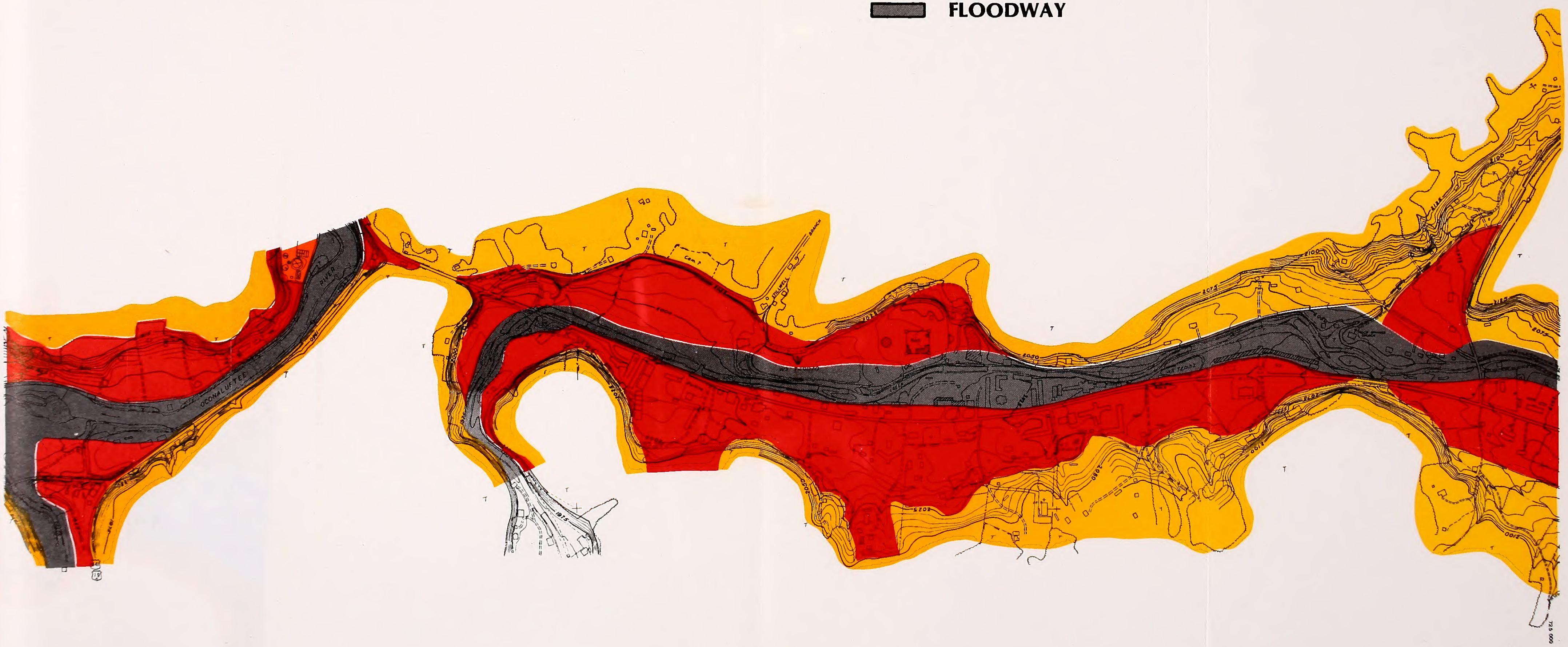
SCALE IN FEET

NORTH

MAP 17

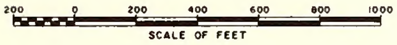
LEGEND

- 🟨 RESIDENTIAL
- 🟥 COMMERCIAL
- ☐ SEMI-PUBLIC
- 🟧 GOVERNMENTAL
- ☐ INDUSTRIAL
- ▨ FLOODWAY

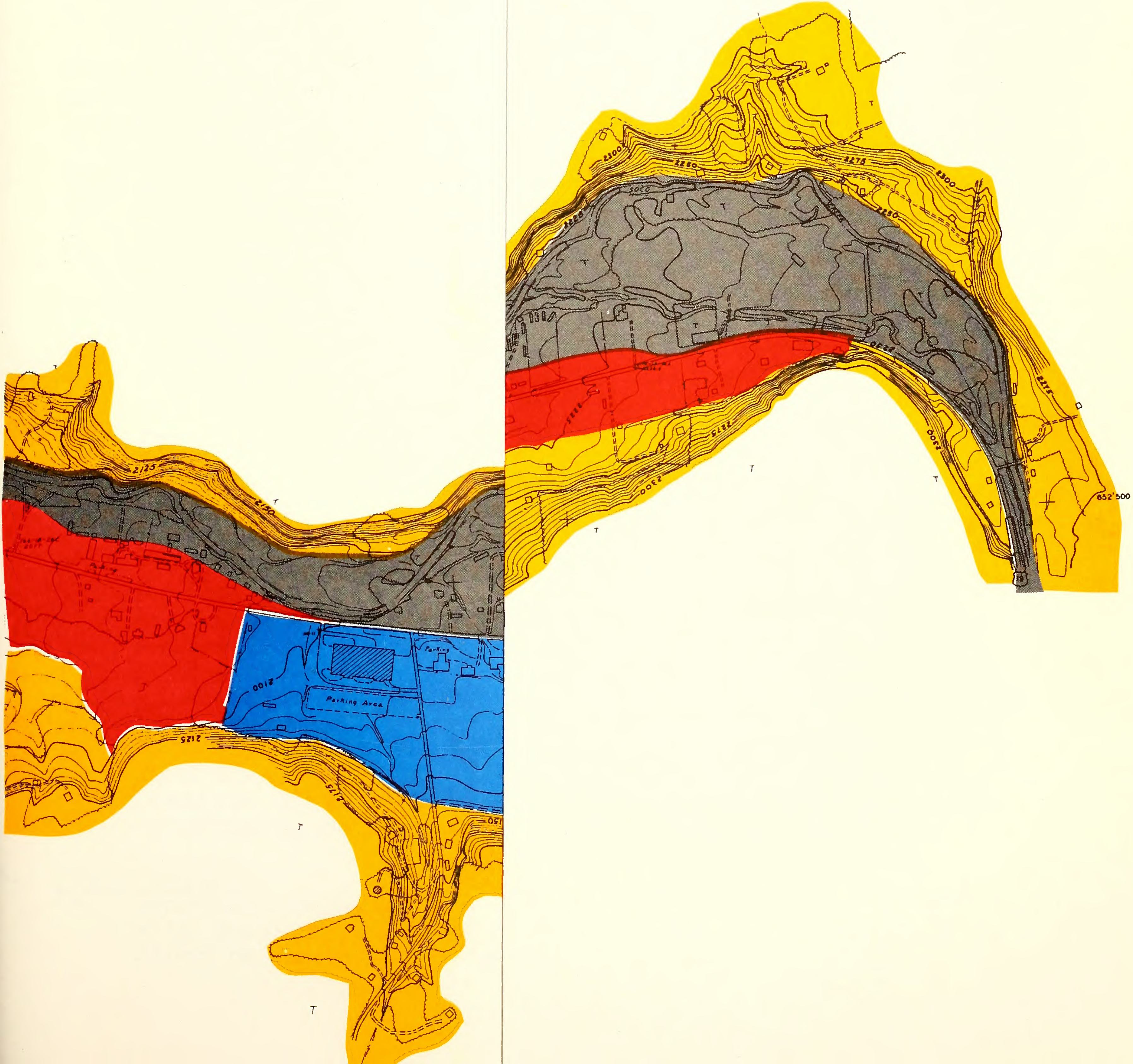


LAND DEVELOPMEN
BUILT-UP AREAS

SOCO VALLEY - EAST



MAP 18



LAND DEVELOPMENT PLAN
BUILT-UP AREAS

SOCO VALLEY - EAST

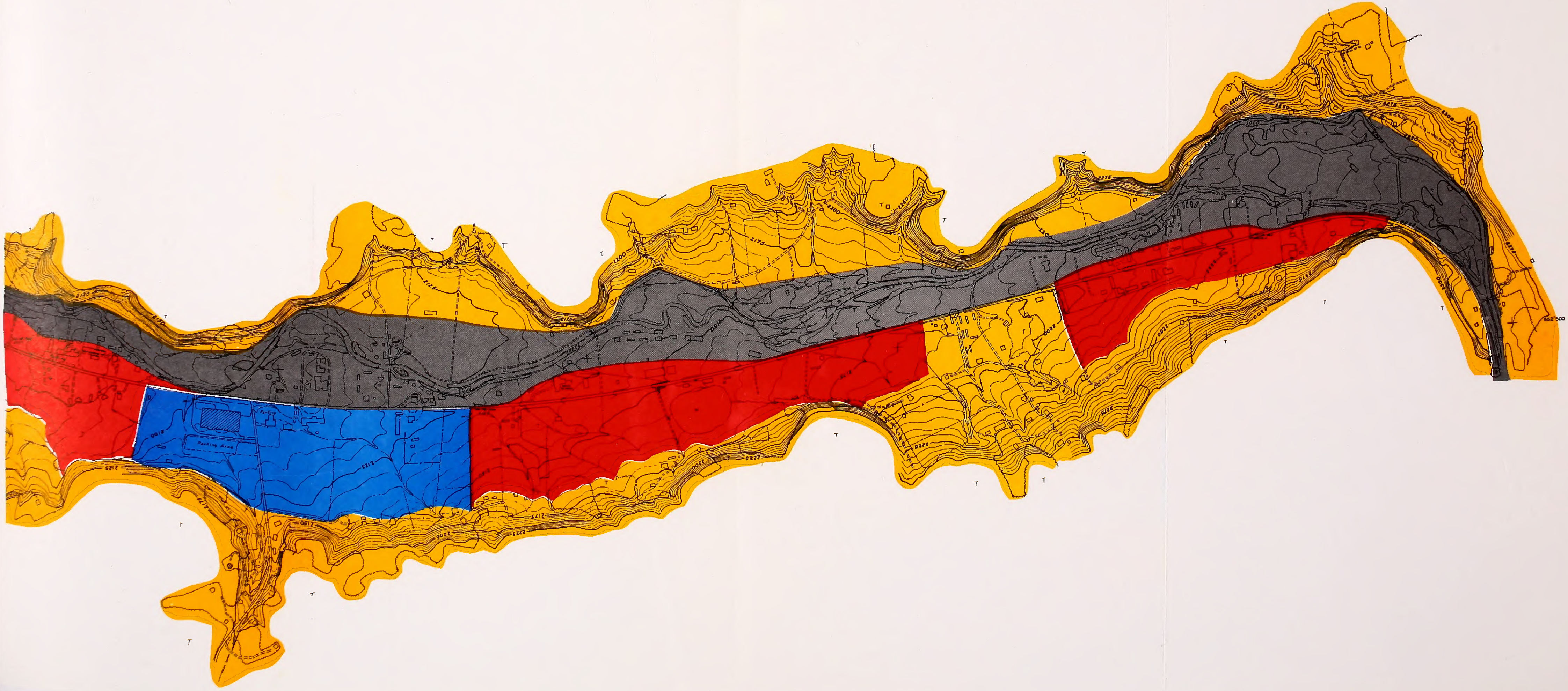
200 0 200 400 600 800 1000
SCALE OF FEET

NORTH

MAP 18

LEGEND

- 🟨 RESIDENTIAL
- 🟥 COMMERCIAL
- ▭ SEMI-PUBLIC
- ▭ GOVERNMENTAL
- 🟦 INDUSTRIAL
- ⬛ FLOODWAY



Industrial Facilities Standards

Worker/Area Relationships

1. Basic Relationships

(a)	Working force as a percent of total population	35-40%
(b)	Workers in industrial areas as percentage	30-35%
(c)	Workers in heavy industry as percentage of workers in industrial areas	60-70%
(d)	Workers in light industry as percentage of workers in industrial areas	
(e)	Workers in basic industry (manufacture of goods for export from area) as percentage of theoretical community size	10%

2. Worker-Area Ratios

Average Number of Workers Per Gross Acre of Industrial Land

	Heavy Industry	Light Industry	Industrial Park
Present Ratios	8	28	18
Expected Future Ratios	6	22	16

3. Land Requirement of Industry
   - (a) Total gross land requirement for all industry - 12 acres/1,000 population
   - (b) Land requirements for light industry - 2 acres/1,000 population
   - (c) Land requirements for heavy industry - 10 acres/1,000 population
   - (d) Land requirements for pre-planned industrial complex (industrial park): Minimum - 320 acres, Ideal - 640 acres
   - (e) Requirements for industrial land reserve - reserve land for minimum of 50 years future growth.

4. General Requirements for Industrial Location
   - (a) Fast, easy, and convenient access to good transportation facilities including rail, highway, and air.
   - (b) Reasonable location with respect to labor supply, raw materials source, and markets.
   - (c) An adequate amount of suitable land free from foundation and drainage problems with a sufficient reserve for future growth.
   - (d) An adequate and reliable supply of utilities: water, waste disposal, power, and fuel.
   - (e) Protection from encroachment of residential or other land uses.
   - (f) Location so as to minimize obnoxious external effects on neighboring non-industrial land uses.

5. Truck Details
   - (a) Depressed Loading Area - bring floors of vehicles level with factory floor. It costs less usually to lay plant floor on grade and excavate truck raise than to raise floor.

(b) Paving width - should be 28' or 32' wide. Paving 30' wide has been used extensively but is wider than needed for three vehicles, not wide enough for four.

(c) Utility strip - When usual setback from street was 15' to 25' utilities generally came in from street side, but with today's 75' to 100' setbacks it is more economical to come in from rear.

(d) Corners - must be designed to take trucks. If radius is too short, truck will have to use second lane to make turn. Where combinations of tractor, semi-trailer, and four-wheel trailer are used, it is desirable to use still longer radius.

(e) Plenty of truck space - is needed for loading, parking, and maneuvering. It is better to overdesign than skimp on space as time costs more than space.

Industrial Performance Standards

1. Noise

Maximum Permitted Decibel Levels - The sound pressure level resulting from any activity, whether open or enclosed, should not exceed at any point on or beyond any lot line, the maximum permitted decibel levels for the octave band as set forth in the following table:

Octave Band (cycles per second)	Maximum Permitted Sound Pressure Level (in decibels)
20 to 75	79
75 to 150	74
150 to 300	66
300 to 600	59
600 to 1,200	53
1,200 to 2,400	47
2,400 to 4,800	41
Above 4,800	39

2. Vibration

Maximum Permitted Steady State Vibration Displacement - No activity should be allowed which would cause or create a steady state vibration at any point on any lot line with a displacement in excess of the permitted steady state vibration displacement for the frequencies as set forth in the following table:

Frequency (cycles per second)	Maximum Permitted Steady State Vibration Displacement (in inches)
10 and below	.0008
10 - 20	.0005
20 - 30	.0003
30 - 40	.0002
40 - 50	.0001
50 - 60	.0001
60 and over	.0001

Maximum Permitted Impact Vibration Displacement - No activity should be allowed which would cause or create an impact vibration at any point on any lot line with a displacement in excess of the permitted impact vibration displacement for the frequencies as set forth in the following table:

Maximum Permitted Impact Vibration Displacement (in inches)

Frequency (cycles per second)	
10 and below	.0016
10 - 20	.0010
20 - 30	.0006
30 - 40	.0004
40 - 50	.0002
50 - 60	.0002
60 and over	.0002

Smoke, Odorous Matter, Toxic Matter Radiation Standards

(1) Maximum Permitted Emission of Smoke - The density of emission of smoke during normal operations should not exceed Standard Smoke Chart Number 2, and the quantity of smoke should not exceed a maximum of 10 smoke units per hour per stack.

(2) Maximum Permitted Emission of Dust

(a) Related to combustion for indirect heating - The maximum permitted emission should be 0.50 pounds per minimum size plants producing a heat input of 10 million or less British thermal units per hour and 0.15 for maximum size plants producing a heat input of 10,000 million or more British thermal units per hour. All intermediate values should be determined from a straight line plotted on log graph paper.

(b) Related to process - The emission into the atmosphere of process dust or other particulate matter which is unrelated to combustion for indirect heating or incineration should not exceed 0.50 pounds per hour for 100 pounds of process weight or 50 pounds per hour for 100,000 pounds of process weight. All intermediate values should be determined from a straight line plotted on log graph paper.

(3) Odorous Matters - The emission of odorous matter in such quantities as to be readily detectable at any point along lot lines or to produce public nuisance or hazard beyond lot lines should be prohibited.

(4) Toxic or Noxious Matter - The emission of such matter should be so controlled that no concentration at or beyond lot lines shall be detrimental to or endanger the public health, safety, comfort, and other aspects of the general welfare, or cause damage or injury to property.

(5) Radiation Hazards - Unsealed radioactive materials should not be manufactured, utilized, or stored (unless such materials are stored in a fireproof container or at below ground level) in excess of state and national standards.

(6) Maximum Permitted Quantities of Fissionable Material - No one of the following fissionable materials should be assembled at any one point, place, or work area on a lot in a quantity equal to or in excess of the amount set forth below:

Material	Quantity
Uranium - 233	200 grams
Plutonium - 239	200 grams
Uranium - 235	350 grams

(7) Fire and Explosive Hazards - Classifications - Materials are divided into four classifications or ratings based on the degree of fire and explosive hazard. The rating of liquids is established by specified open cup flash points.

- (a) Class I includes slow burning to moderate burning materials. This includes all liquids with an open cut flash point of 182°F. or more.
- (b) Class II includes free burning to intense burning materials. This includes all liquids with an open cup flash point between 100°F and 182°F.
- (c) Class III includes materials which produce flammable or explosive vapors or gases under ordinary weather temperature. This includes all liquids with an open cup flash point of less than 100°F.
- (d) Class IV includes materials which decompose by detonation, including but not limited to all primary explosives.

Regulations

Class I - Class I materials or products may be stored, manufactured, or utilized in manufacturing processes or other production.

Class II and Class III - Class II materials or products may be stored, manufactured, or utilized in manufacturing processes or other production only in accordance with the following provisions:

1. Such storage, manufacture, or utilization should be carried on only within buildings or other structures which are completely enclosed by incombustible exterior walls;
2. Such buildings or other structures should be set back at least 40 feet from any lot lines, or in lieu thereof, all such buildings should be protected throughout by an automatic fire extinquishing system.

Humidity, Heat, or Glare - Any activity producing excessive humidity in the form of steam or moist air or producing intense heat or glare, should be carried out within an enclosure and in such a manner as not to be perceptible at or beyond any lot line.

Building and Site Standards

1. Minimum land to building ratio of 4:1
2. Minimum building setback of 50 feet from main roads. Such set back areas should be appropriately landscaped.

(3) Minimum side lot set back of 50 feet. Such side lot areas may be devoted to paved parking.
(4) A 200 foot buffer strip should be required and maintained around an industrial area.
(5) All parking should be to the rear or side of buildings.
(6) All parking lots should be paved.
(7) No truck loading docks or doors should be permitted on the front of buildings.
(8) Plans of all proposed buildings should be submitted to a review board for approval prior to the start of construction.
(9) Building exteriors on all four sides should be constructed of materials considered first class exterior finishes.
(10) All buildings should have a sprinkler system for fire protection.
(11) Outside storage should be appropriately screened on all sides.

Commercial Development Standards

Neighborhood Shopping Center Size

Population Served	1,600 Families or 5,000 Persons
Floor Area Required (Sales Area)	28,800 Square Feet
Customer Parking Area (2:1 ratio)	57,600 Square Feet
Circulation, Service & Planting Areas (25%)	36,400 Square Feet
Total Square Feet	172,800 Square Feet
Total Acres Required	4.0 Acres
Sq. Ft. Per Family (Gross)	100 Square Feet
Maximum Walking Distance	1/2 Mile

Community Shopping Center Size

Population Served	12,000 to 13,000 Families or 40,000 Persons
Floor Area Required (Sales Area)	100,000 Square Feet
Customer Parking Area (3:1 Ratio)	300,000 Square Feet
Circulation, Service, & Planting Area (25%)	100,000 Square Feet
Total Acres Required	10 to 12 Acres
Sq. Ft. Per Family (Gross)	38 to 42 Square Feet
Maximum Distance	1 mile walk, 15 minute drive

Shopping Center Parking

Parking Ratio -

Parking ratio is a relationship between the area devoted to parking and the area devoted to building. This ratio is best expressed in terms of gross floor area.

For planning purposes and for estimate adequacy of site area, the parking ratio is a useful way to estimate parking area requirements in preliminary site planning.

The ratio, stated as being 2 to 1 or 3 to 1, for example, allows for a preliminary measurement of the site's parking capacity including allocations for the car stalls, the moving aisles, access drives, planting spaces, pedestrian walkways--the appurtenances of parking.

In estimating the site's parking capacity by the ratio method, it is best to allow 400 square feet of area per car. This allowance includes access drives, storage spaces, and incidential areas such as landscape plots and unusable corners.

Parking Index -

The relationship between the number of car parking spaces and the retail space furnishes the index for parking need.

The area in retail selling space varies according to the tenant type; the display of goods; the method of selling; the number, size, and variety of items, etc. For this reason, selling space as a unit against which to make comparisons is too variable for reliable computation. But the gross leasable area i.e., the total gross floor area within buildings which is occupied exclusively by individual tenants and upon which the tenants pay rent, is measurable. Each tenant's gross leasable area is described in the lease document. Gross leasable area (abbreviated GLA) becomes, then, a known factor for measuring parking spaces in relationship to retail area for statistical analyses.

The type of tenancy has much to do with the number of parking spaces needed--for example a supermarket requires more spaces than does a furniture store. Ordinarily there is overlap and turnover of space from one tenant's use to another.

The parking index is the number of car parking spaces per 1,000 square feet of gross leasable area.

As a unit to indicate the number of parking spaces needed in relation to tenant occupancy, the parking index has the advantage of not requiring adjustments or explanations to show the assignments made for area per car, arrangement of the spaces, provisions for car circulation, size and shape of the site, etc.

Recommended Standard -

1. In operational practice and hence for development planning purposes, where there is virtually no walk-in trade nor public transit usage, the provision of 5.5 car parking spaces per thousand square feet of gross leasable area is adequate as a standard to meet the demand for parking space at shopping centers. This standard accommodates the need for parking spaces at shopping centers for all but the ten highest hours of demand during an entire year. These ten highest hours occur during the three peak days of the year. It is uneconomic to provide parking space for such limited peak demands.

2. Office space usage up to 20% of the gross leasable area can be added to the center's complex without a noticeable increase in the peak parking demand.

3. Where there is a significant volume of walk-in customers or arrival by means of public transit, or where there are other mitigating circumstances such as limited trading area of unusual arrays of tenant classifications that have unusually low parking requirements, then the parking space provision cited above can be reduced proportionately.

4. As found in zoning ordinances at present, most of the regulations for shopping center parking call for a substantially greater amount of parking spaces than are found to be necessary in actual practice.

The findings lead to the following general conclusions: off-street parking needs have been overestimated by shopping center developers, leaders, and tenants; similarly, off-street parking requirements being asked for are excessive in many zoning ordinances.

Accordingly, for shopping centers of all sizes it is recommended that a standard of 5.5 spaces per thousand square feet of gross leasable area be established generally.

Planned Development Unit (PUD)

A planned unit development is a residential or commercial development in which the subdivision and zoning regulations apply to the project as a whole rather than to its individual lots (as in most tract housing). Densities are calculated on a project-wide basis, permitting among other things the clustering of houses and businesses and provision of common open space. A main requirement is that over-all density not exceed that laid down in the guidelines. PUD facilitates a more comprehensive land-use plan along principles similar to the medieval village or New England town. Potential advantages include: an improved site design, free of standard lot pattern limitations, lower street and utility costs made possible by reduced frontages; more useful open space due to reduction or elimination of the unusable side and front yards required by traditional zoning; greater flexibility in the mixing of residential building types; the possibility through its greater freedom in design of increasing over-all densities without loss of essential amenities--a concept which is most desirable in Cherokee due to the increasingly limited developable land.

Public Utilities Standards

General Requirements

PUBLIC WATER SUPPLY
(a) Quantity: Sufficient quantity for projected growth plus reserve for dry periods.
(b) Quality: Meets United States Public Health Standards.
(c) Treatment Facilities: Adequate capacity to meet demands of maximum day plus fire flow. Provision for stage expansion. Adequate to insure degree of treatment needed.
(d) Distribution System: Proper design to insure complete coverage of logical service area, and to assure delivery of required flow. Storage facilities where needed. Maintenance of minimum pressure of 40 psi everywhere in system.

SEWAGE DISPOSAL
(a) Collection System: Proper design to insure complete coverage of logical service area. Maintenance of minimum gradient in lines. Provision for sewage life stations where required.
(b) Sewage Treatment System: Complete treatment required, preferably through consolidated area-wide system. Location away from residential or commercial districts. Plant layout and total space adapted for expansion.

STORM DRAINAGE
(a) Reasonable basis for assumed quantity of runoff from design storm (generally 5 year storm).
(b) Adequate provision for handling storm waters originating in upper basis as well as lower basin.
(c) Preserve natural drainage courses where possible with adequate channel rights of way (generally flood plain of 25 year storm).
(d) Prohibit storm drainage into active irrigation ditches.
(e) Provision of storm sewers where necessary with sizes capable of serving logical service area (drainage basin).

ELECTRICITY, GAS, AND TELEPHONE SERVICE
(a) Insure adequacy of coverage and capacity.
(b) Encourage underground installation whenever possible.

General Location of Utilities

SANITARY SEWER

Generally located on center line of road. The line is a clay tie pipe. If it was located in the planting strip the roots of the trees might cause breaks in the pipes. This center line location also locates the pipe equidistant from building lines on both sides of the street.

STORM SEWER

Generally located the distance from curb line to center line of street. It is always located on the opposite side of the street from the water line.

WATER SUPPLY

May be located under sidewalk, in planting strip, or under street. Minimum design requirements will locate it at least 10 feet from nearest sewer or gas main and above highest sewer or gas main.

GAS

Generally located under sidewalk or in planting strip.

ELECTRICITY AND TELEPHONE

Best located in underground conduit. Sometimes located in overhead lines over planting strips. This causes interference with trees, danger of falling wires, and unsightly appearance.

Definitions

Sewerage System--The collection of waste waters from occupied areas and conveying them to some point of disposal. The liquid wastes may or may not be treated before discharging into a body of water.
Sewage-is the liquid conveyed by a sewer.
Sanitary Sewage--That which originates from a dwelling unit, office building, factory, or institution. Sometimes referred to as domestic sewage.
Industrial Waste--Liquid waste from an industrial process, such as papermaking, brewing, or chemicals.
Storm Sewage--Liquid entering into sewers resulting during or after a period of rainfall.
Infiltration--Water that has leaked into a sewer from the surrounding ground.
Sewer--A closed pipe which carries sewage.
Sanitary Sewer--is one that carries only sanitary sewage. The size of sewer is not adequate to carry storm sewage or surface water. Sometimes called a separate sewer.
Storm Sewer--is one that carries storm sewage, surface runoff, and street wash.
Combined Sewer--carries sanitary sewage, industrial waste, and storm sewage. Diameter is much larger than either a sanitary or storm sewer.

Sewerage Works--Refers to the complete system of collecting, treating, and disposing of sewage.
Public Sewer--is one that is municipally-owned and in which all abutting properties have equal rights to use.
Private Sewer--one that is owned by property owners or developer. Use by other parties will normally be limited or involve some form of payment.
House Sewer--Pipe carrying sewage from the plumbing system of a single building to a sanitary sewer or other disposal system.
Lateral Sewer--Has no other common sewer discharging into it.
Sub Main Sewer--One that receives the discharge of a number of lateral sewers.
Main Sewer (Trunk Sewer)--Receives the discharge from one or more sub-main sewers.
Outfall Sewer--Receives the discharge from the collecting system and conducts it to a treatment plant.
Intercepting Sewer--One that cuts transversely a number of other sewers to intercept dry-weather flow.
Relief Sewer--One that has been built to relieve an existing sewer of inadequate capacity.
Sewage Treatment--Refers to any artificial process to which sewage is subjected in order to remove or alter its objectionable constituents and make it less dangerous or offensive.

Public Sewerage System

AREAS SERVED

To make the following evaluations the sewerage service map is compared with (1) the present population density map, to determine current service needs and (2) the future population density map, to determine these areas which the future will find most in need of sewerage service. In this connection, there is considerable evidence that, within limits, the construction of new sewer systems to serve anticipated growth areas is often "self-insuring"; that is, the presence of adequate public sewerage facilities attracts home builders and home owners alike to the areas so served and in this way stimulates population growth in these areas. By computing the area provided with sewerage service as a percentage of the total area in each density grouping, the percentage of homes served for each of the population groupings may be determined.

Example:
49.6 sq. mi.--total in study area
7.9 sq. mi.--total area in "over 5,000 persons per sq. mi." density group
6.8 sq. mi.--of this 7.9 sq. mi. served by public sewerage service

Therefore: $100 \times \frac{6.8}{7.9} =$ 86 percent of this density group is served

Example:

The following chart relates the economic justification of public sewerage service with various population densities. The chart does not necessarily reflect the justification of public sewerage service from a health standpoint, since this cannot be determined except as a judgement factor.

With this limitation, the chart should serve as a "rule-of-thumb" guide for planning purposes. Local characteristics such as topography and subsoil conditions may alter the criteria, which are based on research results for average soil and topographic conditions.

Population Density	Equivalent Lot Size	Service Economic Justification
Over 5,000 persons/ sq. mile	Less than 1/2 acre	Public sewerage is justified
2,500-5,000 persons/ sq. mile	1/2 to 1 acre	Public sewerage is normally justified
1,000-2,500 persons/ sq. mile	1 to 2 acres	Public sewerage is not normally justified
Less than 1,000 persons/sq. mile	Over 2 acres	Public sewerage is rarely justified

SERVICE AREA

Service areas should be based on population density and topography. A multiplicity of small sewage treatment plants indicates a lack of coordinated area planning. The practice of constructing many small plants, each designed to serve only its immediate area, is less desirable and often more expensive than a few large plants designed to serve entire drainage areas. A comparison of the service area map with the map previously prepared for drainage and soil conditions will be helpful in determining (a) most logical locations of treatment facilities and service areas, and (b) areas where public sewerage is most needed due to soil conditions which preclude the proper operations of private septic tank systems.

JURISDICTIONAL AREA

Jurisdictional areas should be related to drainage areas and should reflect anticipated growth patterns.

SEWERAGE MASTER PLAN

A sewerage master plan showing future needs and facilities is necessary in attacking the problem of urban growth. In areas currently without serious problems, such a plan will assist greatly in preventing future problems. Along with the master plan, a capital budget (long-range financial plan) is needed, in which expenditures are allocated for periods of several years. Both the master plan and the capital budget should be related to other community needs.

EXPANSION NEEDS

A sewerage system which allows flexibility to meet changing conditions is desirable. This can be accomplished by designing sewer sizes to handle both present and future needs, and by a treatment plant which will allow expansion at minimum expense. Where economics do not justify large sewer main construction in all areas, temporary pumping stations have been used until population densities warrant permanent trunk line installations.

SEWER CONNECTION REQUIREMENTS

When public facilities are available, connection to such a system should be required, since this allows better system planning. A determination is needed for availability, and a definite distance should be set. Some areas also use a time factor, allowing one to two years before connection is required. Still another system is that of requiring payment of a front foot benefit charge where a line is available regardless of whether connection is made.

SEWER LINE EXTENSIONS

The community should have a definite policy for determining the method by which service extensions are made. Whatever method is used, it should allow extensions to be made where economic and health factors make this desirable.

The policy should include provision for extension of lines across vacant lots. This requires a decision as to the method of payment or cost sharing. For over-sized lines designed to serve a large drainage area, a common method is for the government agency to pay the difference in cost between a sewer sized only for the immediate development area and the larger size which will be needed ultimately for the total drainage area.

ADEQUACY OF TREATMENT

The community should provide treatment for all sewage. In urban areas, the discharge of untreated sewage into the environment constitutes a definite health hazard. If such conditions exist, or if the present facilities do not provide treatment of all sewage, steps should be taken toward corrective measures for the community.

RATE STRUCTURE

A determination of total sewerage service costs is useful to compare local system costs with each other and with costs in adjacent areas. Average monthly residential sewerage cost is a convenient basis for this comparison. In some communities sewerage costs are paid from a general fund supported by ad valorem taxes and in this case, an estimate of average monthly residential cost should be made.

In other areas sewerage costs are based on water usage. If this is the case, a standard water consumption figure must be assumed and used throughout the study area for comparison purposes. One thousand cubic feet per residence per month (about 75 gallons per person per day) is suggested for this purpose.

Comparison of Combined and Separate Sewer Systems

Combined vs. Separate Sewers. Present-day construction of sewers is largely confined to the separate system except in those cities where combined systems were constructed many years ago. In newly developing urban areas the first need is for collection of sanitary sewage, and, since the sanitary sewers are relatively small and inexpensive, they can usually be constructed without long delay. For years the storm water will be cared for by the street gutters and the natural watercourses. As the city grows, however, underground conveyance of storm-water runoff may be needed, and a storm sewer system will be built. Many of the cities having combined systems were highly developed before the establishment of water-carried sewerage and already had storm sewer systems. It is interesting to note that a century ago in some cities the discharge of household wastes into the sewers was actually forbidden, but later the storm sewers received all liquid wastes and became combined sewers. Further extensions of such systems were then specially designed as combined sewers, often with provision for separating the dry-weather flow, which is largely sanitary sewage, from the large wet-weather flow.

Separate sewers are favored under the following conditions: where there is an immediate necessity for collection of sanitary sewage but not for the large conduits required for the storm flow; where conditions are favorable for carrying storm sewage long distances over the ground surface; where disposal of the combined flow would necessitate pumping but where the separated storm flow need not be pumped; where mixture of storm and sanitary sewage would necessitate treatment of both while separation will allow disposal of storm flow without treatment; where an existing system of storm or combined sewers is inadequate in capacity and can be used for sanitary sewage alone, supplemented by another system for the storm waters.

Combined sewers are favored under the following conditions: where both types of sewage must be carried underground and it is necessary to keep the cost as low as possible; where the combined flow can be disposed of near by without objectionable conditions; where the storm flow, because of organic matter in street wash, is itself objectionable and requires treatment; where, as in crowded city streets, it is inadvisable to have more than one sewer.

It should also be pointed out that a system of sanitary sewers needs careful supervision to prevent unauthorized connection of roof gutters and other drains which will overload the sewers with rainwater during storms. Such supervision and danger are not a factor with combined sewers.

Shallow Manhole

Manholes are among the most common appurtenances found in sewerage systems. Their principal purpose is to permit the inspection and cleaning of the sewers and the removal of obstructions.

Most manholes are circular in shape, with the inside dimension sufficient to perform inspecting and cleaning operations without difficulty. A minimum inside diameter of 4 ft. for circular manholes has been widely adopted. However, 3 ft. 6 in. is used in some localities, and where used solely for access into large sewers a diameter of 3 feet has been successful.

When the width of the sewer does not exceed the width of the manhole, the manhole is usually constructed directly over the center line of the sewer. For larger sewers the manhole is preferably constructed tangent to the side of the sewer for better accessibility. The manhole, for very large sewers, may be entered over the sewer, with a landing platform offset from an opening into the sewer itself. Consideration must be given to the need for introduction of cleaning equipment into the sewer.

The opening into the manhole must enable a man to gain access to the interior without difficulty. A minimum clear opening of 21 inches is recommended; it may be centered over the manhole, or, as is frequently done, it may be constructed off center in such a way as to provide a vertical side for the entire depth.

Treatment Plant

A wastewater treatment plant speeds up natural processes of stabilization. A reduction of the pollutants in water which might take weeks or days in the receiving water is accomplished in hours in a treatment plant.

Wastewater treatment is of two general types, primary and secondary. In primary treatment solids are allowed to settle out. This reduces pollution by about 25-40%. Secondary treatment, a further step in purifying, uses biological processes in addition to settling. This reduces the pollution 85-95%.

PRIMARY TREATMENT

Primary treatment may be suitable when the receiving waters are large and swift enough to handle pollutants by natural processes without endangering health or causing odors.

As the wastewater enters the plant, it flows through a bar screen to remove large pieces of material which might clog or damage machinery. A comminutor or barminutor may take the place of the bar screen. These units shred or cut the solid material and it remains in the liquid.

In the grit chamber, sand, grit, cinders, and stones are allowed to settle out. Next, a coarse screen may be used to protect equipment and processes. At this point, a pumping station may be necessary to lift the wastewater into the sedimentation tank. In this tank, remaining solids settle to the bottom or float on top as scum. These solids, called sludge, are removed from the tank by skimming the scum from the top and by pumping the sludge from the bottom of the tank to the sludge digestion tank. In the digester, the sludge is reduced in volume and stabilized by bacterial action which results in material that can be disposed of safely.

While the sludge is digesting, a large volume of gas is produced. This gas contains 60-70% methane and has a net heat value of 540-675 B.T.U.'s per cubic foot.

Sludge gas produced by digestion is used in many treatment plants as a source of energy for operating parts of the plant.

Stabilized sludge is periodically drawn off and dried by being spread on drying beds, by centrifuging or by vacuum filters. Dried sludge can then be burned or used as land fill.

However, there are some problems in disposal and use of dried sludge. The demand for it as fertilizer is limited. When used by homeowners, sludge should be sterilized to protect the public health.

As a final step in primary treatment, the settled wastewater may be passed through a chlorine contact tank where chlorine is added for disinfection. The effluent is then discharged to receiving waters through an outfall sewer.

SECONDARY TREATMENT

In secondary treatment, certain units are added to the primary treatment plant to treat the settled wastewater from primary sedimentation. These additional units are needed when the receiving waters are small or slow-flowing or wastes come from a large population. Secondary treatment involves biological processes which oxidize dissolved and finely suspended materials. The basic methods of providing this biological treatment are:

Trickling filers. Settled wastewater from the sedimentation tank is distributed over beds of gravel or crushed stone, usually by a rotary distributor. As the wastewater trickles through the stones, it contacts the biological slime which grows on the stones. The organisms in the slime oxidize most of the remaining impurities in the liquid, reducing the pollutional load.

Activated sludge or aeration. Settled wastewater from the sedimentation tanks is mixed with compressed air and biologically active sludges. This method also oxidizes the organic materials and reduces impurities.

After this biological treatment, secondary sedimentation removes the remaining solids. A portion of the settled solids is returned to the aeration tank to provide the necessary biologically active material. The remainder is pumped to the digestor with the sludge from the primary sedimentation tank for treatment. The final effluent may be chlorinated before discharge.

Since the activated sludge process is more complex, it is more difficult to operate than a trickling filter. The trickling filter, however, is less efficient and requires a larger land area. There are many modifications of these basic processes available for use with particular types of wastes.

OTHER METHODS OF TREATMENT

There are several other processes in addition to these basic methods of treatment.

The Imhoff tank combines sedimentation and sludge digestion in a two-story tank. This is a common method of primary treatment in small communities because it is cheaper and requires less skilled operation than a standard primary treatment plant with separate digestion tanks. However, it is low in efficiency and provides less reliable sludge digestion, particularly in northern latitudes.

The Zimmerman Process is a patented method of treating sludge under high pressure and high temperature in a small area. If there is high sludge concentration the process is self-supporting in heat and power. For this method to be practical, an equivalent population of 30,000 is necessary.

Another patented method of sludge digestion involves the centrifuging of raw sludge followed by incineration under low pressure and high temperature. There are still other patented processes. Their applicability in a given situation must be evaluated by competent sanitary engineers.

Automation is an important new factor in wastewater treatment plant operation. Much progress has been made in the automation of recording and control equipment.

Public Water Supply

SERVICE AREAS

A small number of community water utilities is preferable to a multiplicity of uncoordinated systems. Where practical, interconnection between distribution lines is recommended. A large number of relatively small water companies or municipal departments is often the result of a lack of a coordinated policy for community water resources. Widely different rate systems, insufficient capacity in some areas, and deficient fire protection service can often be traced to these conditions and illustrate the need for an area-wide coordinated plan for water service.

WATER MASTER PLAN

A master plan which shows future needs and facilities in relation to the area's growth and water resources is necessary for effective planning. Such a plan should be developed in connection with a sewerage master plan, and should encompass the long-range watershed needs, storage facilities, and, if appropriate, flood-control plans. Pipe networks, pumping facilities, treated water storage needs, and fire protection demands should also be considered.

Still another factor needed for a good community water program is a long-range financial plan. Both the master plan and capital budget should be related to other community needs.

CONNECTION REQUIREMENTS

Regulations calling for mandatory connection to public water supplies, where public water service is, or could be made available, are recommended for allowing better system planning and financing.

EXTENSION OF SERVICES

The community should have a definite policy for determining the method by which service extensions are made. Where water is provided by a private utility firm, extensions are largely dictated by economic factors. Where the system is publicly operated, there should be clear-cut processes by which service can be extended without undue "red tape."

Population Density	Equivalent Lot Size	Service Economic Justification
Over 2,500 persons/ sq. mile	Less than 1 acre	Public water supply is justified
1,000-2,500 persons/ sq. mile	1 to 2 acres	Public water supply is normally justified
500-1,000 persons/ sq. mile	2 to 4 acres	Public water supply is not normally justified
Less than 500 persons/ sq. mile	Over 4 acres	Public water supply is rarely justified

Where vacant areas must be crossed, or where the pipe network calls for oversized lines, a policy should be firmly established describing any special financial arrangements for such cases.

WATER QUALITY

The treated water should meet State and Public Health Service quality standards. A recommended minimum standard suitable for States and local areas is given in Public Health Service Drinking Water Standards.

WATER QUANTITY

Capacity and storage should be such as to provide quantities adequate for maximum day demands, without significant loss of pressure. The system should also be capable of meeting fire flow demands. In most cities under 200,000 population, the water required for fire fighting purposes, plus the maximum day consumption, is the governing factor in design. Requirements for fire fighting needs are usually based on standards set by the National Board of Fire Underwriters.

RATE STRUCTURE

Although no emperical figure can be provided as a "reasonable" water rate, the cost of water should be fairly consistent throughout the study area and should be reasonable enough to encourage connection to the public supply. In some communities, water revenues are too low to allow sound fiscal planning for depreciation or anticipated expansion needs. In other areas, water rates are set high enough to give a surplus sometimes used for other purposes. A thorough study of the rate structure is desirable to avoid both of the above practices and to provide fiscally sound service rates.

AREAS SERVED

Public water supply service should be provided to those areas where service can be justified from health and economic standpoints. In making the following evaluation, the water service map should be compared with present and also future population density maps. The percentage of homes served in each population density group can then be determined.

This chart is based on average cost of public vs. private water supplies as compiled from various journals and reports. The policies of State public utility commissions regarding capital investment-financial return were also taken into account.

Local characteristics may indicate an adjustment to these criteria is needed in some cases, but they are suitable for average conditions as a "rule-of-thumb" guide in determining economic justification of public water service.

PLANNING GUIDE FOR WATER USE

Types of establishments	Gallons per day
Airports (per passenger)	3-5
Apartments, multiple family (per resident)	60
Bathhouses (per bather)	10
Camps:	
Construction, semipermanent (per worker)	50
Day with no meals served (per camper)	15
Luxury (per camper)	100-150
Resorts, day and night, with limited plumbing (per camper)	50
Tourist with central bath and toilet facilities (per person)	35
Cottages with seasonal occupancy (per resident)	50
Courts, tourist with individual bath units (per person)	50
Clubs:	
Country (per resident member)	100
Country (per nonresident member present)	25
Dwellings:	
Boardinghouses (per boarder)	50
Additional kitchen requirements for nonresident boarders	10
Luxury (per person)	100-150
Multiple family apartments (per resident)	40
Rooming houses (per resident)	60
Single family (per resident)	50-75
Estates (per resident)	100-150
Hotels with private baths (2 persons per room)	60
Hotels without private baths (per persons)	50
Institutions other than hospitals (per person)	75-125
Hospitals (per bed)	250-400
Laundries, self-serviced (gallons per washing, i.e., per customer)	50
Livestock (per animal):	
Cattle (drinking)	12
Dairy (drinking and servicing)	35
Goat (drinking)	2
Hog (drinking)	4
Horse (drinking)	12
Mule (drinking)	12
Sheep (drinking)	2
Steer (drinking)	12
Motels with bath, toilet, and kitchen facilities (per bed space)	50
With bed and toilet (per bed space)	40
Parks:	
Overnight with flush toilets (per camper)	25
Trailers with individual bath units (per camper)	50
Picnic:	
With bath houses, showers, and flush toilets (per picnicker)	20
With toilet facilities only (gallons per picnicker)	10

Types of establishments	Gallons per day
Poultry:	
Chickens (per 100)	5-10
Turkeys (per 100)	10-18
Restaurants with toilet facilities (per patron)	7-10
Without toilet facilities (per patron)	2 1/2-3
With bars and cocktail lounge (additional quantity per patron)	2
Schools:	
Boarding (per pupil)	75-100
Day with cafeteria, gymnasiums, and showers (per pupil)	25
Day with cafeteria but no gymnasiums or showers (per pupil)	20
Day without cafeteria, gymnasiums, or showers (per pupil)	15
Service stations (per vehicle)	10
Stores (per toilet room)	400
Swimming pools (per swimmer)	10
Theaters:	
Drive-in (per car space)	5
Movie (per auditorium seat)	5
Workers:	
Construction (per person per shift)	50
Day (school or offices per person per shift)	15

Implementation

A land development plan is of value to a community only if it is put into effect. Maps, charts, and published reports are of little use unless they serve as an effective guide for both public and private decisions which fashion the community. Perhaps the most important part of the Cherokee Planning Board's job will be the determination of the means of enforcing the plan. There are several legal methods of realizing proposals in the land development plan. Mere adoption of the plan by the Planning Board and Tribal Officials will not accomplish the purposes for which planning is authorized.

Essential to the achievement of community goals is the implementation of the proposals by all available means, including:

(1) Subdivision Regulations

(2) Zoning Ordinance

(3) Code Enforcement

(4) Community Acceptance and Cooperation.

Subdivision Regulations

The control of land subdivision is the means by which possessory land development can be brought into conformity with the land development plan and the public interest. These regulations establish minimum standards of design and construction for all new land development, including both possessory and Tribal improvements. They provide the guide by which the planning board and municipal officials equally and fairly may appraise all proposed plats for subdivision. Subdivision regulations also provide the land developer with a guide to the prerequisites of land subdivision that will meet the approval of the Planning Board and Council.

These controls are necessary if orderly, economical, and sound development is to be achieved. Through the enforcement of such regulations, the design and quality of any future subdivisions will be improved, resulting in better living conditions and greater stability of values for the individual possessory holder. Such controls over land subdivision will insure the installation of utilities that may be economically serviced and maintained, a coordinated road system, and sufficient open spaces for recreation and other public services.

Zoning Ordinance

Zoning is one of the legal devices used to implement the plan. It is not a complete device in itself, but is used in conjunction with other control measures. Zoning divides a subject area into districts corresponding to the intended use of the land as recommended by the land development plan. It specifically defines the purpose of each district and explicitly prohibits future or intended uses within the district that do not conform with its purpose. To accomplish this, zoning restricts the location, height, bulk, and sizes of buildings and structures. Further restrictions include the density of population and the use of buildings, structures, and open spaces. Violation of these restrictions is a misdemeanor. It is essential that a zoning ordinance be enforced as written on a consistent basis. An inconsistent enforcement program or the indiscriminate granting of variances or "favors" may be of such harm that the local government would be just as well off without the zoning ordinance.

There is a great need for zoning in all urbanized areas in order to preserve the quality of environment and to prevent low quality development. Governmental units seem to realize too late the need for regulation of land uses.

Code Enforcement

In communities where honest attempts are being made to upgrade the quality of structures and general living conditions, a good code enforcement program is essential. Codes are governmental requirements placed on private uses of land to protect the occupants from the hazards of living and working in unsound, unhealthy, or otherwise dangerous structures.

The workable program for community improvement, a requirement for many federally supported programs, requires that the basic codes of building, housing, plumbing, electrical, and fire prevention be officially adopted and enforced. A system of codes functions only if accompanied by an inspection system. Inspection of only new buildings does not meet the overall requirements set forth in the workable program which also includes the inspection of existing structures.

The purpose of the building code is to protect people from the hazards of structurally unsound buildings. In contrast to the zoning ordinance, which divides the community into districts with different regulations for each, the building code is uniform in character and is applied to the community as a whole. The same is true of the other municipal codes such as plumbing and electrical codes, all of which are concerned with the public health, safety, and general welfare of the people. While the codes are not derived from the land development plan as are zoning and subdivision regulations, they are created to serve the people in the same way as the comprehensive plan.

Community Acceptance and Cooperation

Citizen participation is undoubtedly one of the most important factors in determining the success of the land development plan. An informed citizenry that is willing to work to achieve the goals set forth in the comprehensive plan is a tremendous asset. A citizenry which refuses to become informed about the needs of the community and support the programs designed to achieve the community goals can make shambles of the best intentions of the planning board and the Tribal government. Perhaps the worst enemies to progress are those people who reject progressive movements because they are either uninformed or content with existing facilities.

Successful citizen participation could be achieved through a public education program designed to inform the community at large of the various purposes and reasons behind the actions of both the planning board and the Tribal government.

Experience has shown that such a public information program yields a valuable sounding board from which valid suggestions and criticism usually result. Thus, these suggestions can be intergrated into the future goals and plans of the Eastern Band of Cherokee Indians.

APPENDIX A

Environmental Assessment

Before the preparation of this study and plan had begun, under separate cover, an Environmental Reconnaissance Inventory for the Eastern Band of Cherokee Indians was completed. It included: (1) the environmental frame, (2) geological characteristics, (3) hydrologic components, (4) important resources and amenities which should be preserved, (5) erosion and sedimentation, (6) archaeological remains, (7) early history, and (8) vascular plants. Other preparatory studies completed were the Population and Economy and the Land Use Analysis and Initial Housing Study. The Land Use Analysis covered the areas of (1) land use classifications, (2) physical development, (3) soils, (4) forest, and (5) floods. These preliminary works formed the foundation upon which this twenty-year plan could be developed with compatibility and consideration of the various environmental factors.

It should be pointed out that this is a generalized plan and that the impact on the environment will fluctuate greatly according to the kind and degree of development even within the scope of the plan.

There are environmental impacts both beneficial and adverse which will occur if this plan is adopted. Each of these is discussed in a summary which follows.

There are two alternatives to a Land Development Plan for the Cherokee Indian Reservation - (1) Laissex-faire--let development occur as it may. The adverse impacts from this policy would far outweigh the impacts. "Zones of conflict" and land incompatibility would occur, and pollution and erosion would increase. Almost all of the adverse impacts mentioned in the following sections would be magnified. (2) No growth policy--The physical environment would certainly be preserved but the Tribe's economic and social condition would become stagnate and perhaps regressive. On a short-term basis, such a policy might look good but on a long-term basis (20 years and beyond) outside circumstances would begin to adversely affect the Cherokee Reservation.

In addition, it should be pointed out that this plan alone will have no impact on the environment. The impacts will occur when Tribal policies, citizen participation, zoning, subdivision regulations, codes, and the like are applied in conjunction with the plan to create the guidelines for development.

Benefit vs. Losses

A. Land and Climate

Depending on the proposed use of the land, some areas of Cherokee will become more developed, some will have open space and natural vegetation, hence, the capacity for erosion will be increased in some areas and decreased in others. This plan proposes that all land on greater than 20 percent slopes not be developed extensively and controlled growth within flood plains. There are no effects on the climate as a result of this plan.

B. Vegetation, Wildlife and Natural Areas

Vegetation, wildlife and natural areas will be preserved in areas planned for non-urban type growth. In areas of intense development their chances of survival are lessened.

C. Surrounding Land Use and Physical Character of the Area

Mixed or non-conforming land uses will be avoided and densities will be planned according to supportative natural and man-made potential.

D. Infrastructure

Demand for water supply will be increased in areas of urbanization as well as in some natural or undeveloped areas. Sanitary and solid waste will accumulate to a greater degree in urban growth areas and will decrease in non-urban areas. Transportation facilities, storm drainage, and energy consumption may increase in urban growth areas and decrease in areas of preservation or open space.

E. Pollution

The extent of pollution such as smog, dust, odors, smoke, noise, and water will concentrate to a greater degree in areas of urbanization and may even effect non-urban areas. Areas of open space will often be free from pollutants such as noise.

Existing Social Environment

A. Community Facilities and Services

The demand for community facilities and services will increase in areas of heavy density.

B. Employment Centers and Commercial Facilities

Such facilities will be separated from places of residence where possible. Poor neighbors (industry and residential) will have greater separation if the plan is adopted, thus improving, in some cases, the compatibility of areas.

C. Character of Community

The socio-economic character of localized communities may change. Centralization and separation of land uses tends to create more communial use of facilities. Additional industry would improve the overall standard of living.

Aesthetic Environment

This plan will attempt to preserve the good amenities of the Reservation and will attempt to eradicate bad amenities. The planned Qualla Boundary, as a whole, will preserve natural and scenic beauty, wildlife, vegetation, soils, water, historic sites, and archaeological or architectural sites or property. A planned locality will tend to concentrate development in areas where water, sewer, and other community facilities are/or can be available.

APPENDIX B

Planning and Regulation of Development

ORGANIZATION AND JURISDICTION

Chapter 160A.
Cities and Towns.

Article 19.
Planning and Regulation of Development.

Part 1. General Provisions

160A-360. Territorial jurisdiction-(a) All of the powers granted by this Article may be exercised by any city within its corporate limits. In addition, any city may exercise these powers within a defined area extending not more than one mile beyond its limits. With the approval of the board or boards of county commissioners with jurisdiction over the area, a city of 10,000 or more population but less than 25,000 may exercise these powers over an area extending not more than two miles beyond its limits and a city of 25,000 or more population may exercise these powers over an area extending not more than three miles beyond its limits. The boundaries of the city's extraterritorial jurisdiction shall be the same for all powers conferred in this Article. No city may exercise extraterritorially any power conferred by this Article that it is not exercising within its corporate limits.

(b) Any council wishing to exercise extraterritorial jurisdiction under this Article shall adopt, and may amend from time to time, an ordinance specifying the areas to be included based upon existing or projected urban development and areas of critical concern to the city, as evidenced by officially adopted plans for its development. Boundaries shall be defined, to the extent feasible, in terms of geographical features identifiable on the ground. A council may, in its discretion, exclude from its extraterritorial jurisdiction areas lying in another county, areas separated from the city by barriers to urban growth, or areas whose projected development will have minimal impact on the city. The boundaries specified in the ordinance shall at all times be drawn on a map, set forth in a written description, or shown by a combination of these techniques. This delineation shall be maintained in the manner provided in G.S. 160A-22 for the delineation of the corporate limits, and shall be recorded in the office of the register of deeds of each county in which any portion of the area lies.

(c) Where the extraterritorial jurisdiction of two or more cities overlaps, the jurisdictional boundary between them shall be a line connecting the midway points of the overlapping area unless the city councils agree to another boundary line within the overlapping area based upon existing or projected patterns of development.

(d) If a city fails to adopt an ordinance specifying the boundaries of its extraterritorial jurisdiction, the county of which it is a part shall be authorized to exercise the powers granted by this Article in any area beyond the city's corporate limits. The county may also, on request of the city council, exercise any or all these powers in any or all areas lying within the city's corporate limits or within the city's specified area of extraterritorial jurisdiction.

(e) No city may hereafter extend its extraterritorial powers under this Article into any area for which the county at that time has adopted and is enforcing a zoning ordinance and subdivision regulations and within which it is enforcing the State Building Code. However, the city may do so where the county is not exercising all three of these powers, or when the city and the county have agreed upon the area within which each will exercise the powers conferred by this Article.

(f) When a city annexes, or a new city is incorporated in, or a city extends its jurisdiction to include, an area that is currently being regulated by the county, the county regulations and powers of enforcement shall remain in effect until (i) the city has adopted such regulations, or (ii) a period of 60 days has elapsed following the annexation or incorporation, whichever is sooner. During this period the city may hold hearings and take any other measures that may be required in order to adopt its regulations for the area.

(g) When a local government is granted powers by this section subject to the request, approval, or agreement of another local government, the request, approval, or agreement shall be evidenced by a formally adopted resolution of that government's legislative body. Any such request, approval, or agreement can be rescinded upon two years' written notice to the other legislative bodies concerned by repealing the resolution. The resolution may be modified at any time by mutual agreement of the legislative bodies concerned.

(h) Nothing in this section shall repeal, modify, or amend any local act which defines the boundaries of a city's extraterritorial jurisdiction by metes and bounds or courses and distances.

(i) Whenever a city or county, pursuant to this section, acquires jurisdiction over a territory that therefore has been subject to the jurisdiction of another local government, any person who has acquired vested rights under a permit, certificate, or other evidence of compliance issued by the local government surrendering jurisdiction may exercise those rights as if no change of jurisdiction had occurred. The city or county acquiring jurisdiction may take any action regarding such a permit, certificate, or other evidence of compliance that could have been taken by the local government surrendering jurisdiction pursuant to its ordinances and regulations. Except as provided in this subsection, any building, structure, or other land use in a territory over which a city or county has acquired jurisdiction is subject to the ordinances and regulations of the city or county.

(j) Repealed by Session Laws 1973, c. 669, s. 1. (1959, c. 1204, 1961, c. 103, c. 548, ss. 1, 1 3/4, c. 1217, 1963, cc. 519, 889, 1076, 1105, 1965, c. 121, c. 248, s. 2, c. 450, s. 1, c. 864, ss. 3-6, 1967, cc. 15, 22, 149, c. 197, s. 2, cc. 246, 685, c. 1208, s. 3, 1969, cc. 11, 53, c. 1010, s. 5, c. 1099, 1971, c. 698, s. 1, c. 1076, s. 3, 1973, c. 426, s. 56, c. 525, c. 669, s. 1.

160A-361. Planning Agency.-Any city may by ordinance create or designate one or more agencies to perform the following duties:

(1) Make studies of the area within its jurisdiction and surrounding area;
(2) Determine objectives to be sought in the development of the study area;
(3) Prepare and adopt plans for achieving these objectives;
(4) Develop and recommend policies, ordinances, administrative procedures, and other means for carrying out plans in a coordinated and efficient manner.
(5) Advise the council concerning the use and amendment of means for carrying out plans.
(6) Exercise any functions in the administration and enforcement of various means for carrying out plans that the council may direct;
(7) Perform any other related duties that the council may direct.

An agency created or designated pursuant to this section may include one or more of the following, with such staff as the council may deem appropriate:

(1) A planning board or commission of any size (not less than three members) or composition deemed appropriate, organized in any manner deemed appropriate;
(2) A joint planning board created by two or more local governments pursuant to Article 20, Part 1, of this Chapter. (1919, c. 23, s. 1, C.S., s. 2643, 1945, c. 1040, s. 2, 1955, cc. 489, 1252, 1959, c. 327, s. 2, c. 390, 1971, c. 698, s. 1, 1973, c. 426, s. 57.)

160A-362. Extraterritorial representation.-When a city elects to exercise extraterritorial zoning or subdivision-regulation powers under G.S. 160A-360, it shall in the ordinance creating or designating its planning agency or agencies provide a means of representation for residents of the extraterritorial area to be regulated. Representation may be provided by an advisory board composed of residents of the area. The advisory board shall be given an opportunity to consider and make recommendations concerning any regulations to be applied to the area, any proposed amendments to those regulations, the approval of any proposed land subdivisions within the area, and the grant of any special exceptions, variances, special use permits, or conditional use permits sought for property within the area. In lieu of an advisory board, representation may be provided by appointing residents of the area to the planning agency and the board of adjustment that makes recommendations or grants relief in these matters. The members of the advisory board or representatives on the planning agency and the board of adjustment shall be appointed by the board of county commissioners with jurisdiction over the area. If there is an insufficient number of qualified residents of the area to meet membership requirements, the board of county commissioners may appoint as many other residents of the county as necessary to make up the requisite number. When the extraterritorial area extends into two or more counties, each board of county commissioners concerned shall appoint representatives from its portion of the area, as specified in the ordinance. If a board of county commissioners fails to make these appointments within 90 days after receiving a resolution from the city council requesting that they be made, the city council may make them. If the ordinance so provides, the outside representatives may have equal rights, privileges, and duties with the other members of the agency to which they are appointed, regardless of whether the matters at issue arise within the city or within the extraterritorial area; otherwise they shall function only with respect to matters within the extraterritorial area. (1959, c. 1204; 1961, c. 103; c. 548, ss. 1, 1 3/4; c. 1217; 1963, cc. 519, 889, 1076, 1105; 1965, c. 121; c. 348, s. 2; c. 450, s. 1; c. 864, ss. 3-6; 1967, cc. 15, 22, 149; c. 197; s. 2; cc. 246, 685; c. 1208, s. 3; 1969, cc. 11, 53; c. 1010, s. 5; c. 1099; 1971, c. 698, s. 1.)

160A-363. Supplemental powers.-A city or its designated planning agency may accept, receive, and disburse in futherance of its functions any funds, grants, and services made available by the agencies, any local government and its agencies, and any private and civic sources. Any city, ot its designated planning agency with the concurrence of the council, may enter into and carry out contracts with the State and federal governments or any agencies thereof under which financial or other planning assistance is made available to the city and may agree to and comply with any reasonable conditions that are imposed upon such assistance.

Any city, or its designated planning agency with the concurrence of the council, may enter into and carry out contracts with any other city, county, or regional council or planning agency under which it agrees to furnish technical planning assistance to the other local government or planning agency. Any city, or its designated planning agency with the concurrence of its council, may enter into and carry out contracts with any other city, county, or regional council or planning agency under which it agrees to pay the other local government or planning agency for technical planning assistance.

Any city council is authorized to make any appropriations that may be necessary to carry out any activities or contracts authorized by this Article or to support any planning agency that it may create pursuant to this Article, and to levy taxes for these purposes as a necessary expense. (1919, c. 23, s. 1; C.S., s. 2643; 1945, c. 1040, s. 2; 1955, cc. 489, 1252, 1959, c. 327, s. 2; c. 390; 1971, c. 698 s. 1.)

160A-364. Procedure for adopting or amending ordinances under Article.-Before adopting or amending any ordinance authorized by this Article, the city council shall hold a public hearing on it. A notice of the public hearing shall be given once a week for two successive calendar weeks in a newspaper having general circulation in the area. The notice shall be published the first time not less than 15 days nor more than 25 days before the date fixed for the hearing. (1923, c. 250, s. 4; C.S., s. 2776 (u); 1927, c. 90; 1955, c. 1334, s. 1; 1971, c. 698, s. 1; 1973, c. 426, s 58.)

160A-365. Enforcement of ordinances.-Subject to the provisions of the ordinance, any ordinance adopted pursuant to authority conferred by this Article may be enforced by any remedy provided by G.S. 160A-175. (1971, c. 698, s. 1.)

160A-366. Validation of ordinance.-Any city ordinance regularly adopted before January 1, 1972, under authority of general laws revised and reenacted in Chapter 160A, Article 19, or under authority of any city charter or local act concerning the same subject matter, is validated with respect to its application within the corporate limits of the city and as to its application within the extraterritorial jurisdiction of the city. Such an ordinance, and any city ordinance adopted since January 1, 1972, under authority of general laws revised and reenacted in Chapter 160A, Article 19, are hereby validated, notwithstanding the fact that such ordinances were not recorded pursuant to G.S. 160A-360(b) or G.S. 160A-364 and notwithstanding the fact that the adopting city council did not also adopt an ordinance defining or delineating by specific description the areas within its extraterritorial jurisdiction pursuant to G.S. 160A-360; provided that this act shall be deemed to validate ordinances of cities in Mecklenburg County only with respect to their application within the corporate limits of such cities. (1973, c. 669, s. 2.)

APPENDIX C

Cherokee Council House
Cherokee, North Carolina
Date: March 18, 1971

RESOLUTION NO. 397 (1971)

WHEREAS: The Tribal Council of the Eastern Band of Cherokee Indians deems it to be for the best interest of the Band and its members that there should exist a board to be known as the Planning Board of the Eastern Band of Cherokee Indians, whose duty shall be to make careful study of the resources, possibilities and needs of the Eastern Band of Cherokee Indians, particularly with respect to the conditions which may be injurious to the public welfare or otherwise injurious and to make plans for the development of the Eastern Cherokee Indian Reservation;

NOW, THEREFORE, the Tribal Council of the Eastern Band of Cherokee Indians, in Annual Session Assembled at Cherokee Council House, Cherokee, North Carolina, and acting under the authority conferred upon it by the Charter of the Band, and particularly under the authority of Section 22 and Section 23 of said Charter, do hereby resolve:

One: That there is hereby created a Planning Board to be known as the Planning Board of the Eastern Band of Cherokee Indians, which shall be composed of nine (9) persons. The term of office of the members of said board shall be five (5) years and staggered, then shall be designated to expire in one (1) year, two more to expire in two (2) years, two more to expire in three (3) years, two more to expire in four (4) years and the last one to expire in five (5) years, except that in the case of a prior vacancy, an appointment shall be only for the length of the unexpired term. Each member of the board shall hold office until his successor has been appointed and has qualified.

Two: The Council shall name one of the members of the board to serve as Chairman of the Planning Board for a period of one (1) year. Such an appointment may be renewed at the discretion of the Council. The Board shall elect from its members a Vice-Chairman, a Secretary and such other officers as it may desire.

Three: The Council may remove any member of the Board for cause.

Four: The members of the Planning Board shall not receive compensation for their services, but shall be entitled to compensation for expenses, including traveling expenses, incurred in the discharge of their duties.

Five: Five (5) members of the Planning Board shall constitute a quorum for the transaction of business, notwithstanding the existence of any vacancies.

Six: The Planning Board shall have and exercise and is hereby vested with, all of the powers, authorities, discretions and duties with respect to the Eastern Cherokee Indian Reservation as are granted to or imposed upon planning boards which are created by cities and towns within the State of North Carolina under the authority of Section 160-22 of the General Statutes of North Carolina.

Seven: This Board shall be required to meet quarterly and keep minutes of all such meetings and report to Council at the next meeting after the Board has met.

Eight: The following persons representing the agencies listed are hereby designated as the initial membership of the Planning Board of the Eastern Band of Cherokee Indians, to serve for the terms expiring opposite their respective names:

Charles (Chuck) Acree One Year
Chamber of Commerce

James (Bo) Parris, Chairman One Year
Community Action Agency

Bertha Saunooke Two Years
Member of Council who is a member of the Lands Committee

Don Craig Two Years
Businessman at large

John Crowe Three Years
Member of the Executive Committee

Frell Owle Cherokee Development Corporation	Three Years
Calvin James Community Club Council	Four Years
Johnson Catolster Community Services Committee	Four Years
Charles Bradley Qualla Housing Authority	Five Years

NOW, THEREFORE, BE IT RESOLVED that Council shall not relinquish its authority and responsibility to any other body but shall appoint representatives from each of the above listed agencies.

BE IT FURTHER RESOLVED that this resolution rescinds all previous resolutions which are in conflict with this one.

Cherokee Council House
Cherokee, North Carolina
Date: March 12, 1974

RESOLUTION NO. 103 (1974)

WHEREAS, Resolution No. 397 dated March 18, 1971 establishes a nine member Planning Board, with staggered terms, and

WHEREAS, At present there is no place on the Planning Board for Chairman of Tribal Council and someone from Recreation, and

WHEREAS, Mr. Charles Bradley does not desire to serve on the Planning Board

NOW, THEREFORE, BE IT RESOLVED by the Eastern Band of Cherokee Indians in Annual Council assembled, at which a quorum is present, that Resolution No. 397 is amended to replace the Community Club Council representative by the Chairman of Tribal Council and the CAP representative by a Representative from Recreation.

BE IT FURTHER RESOLVED that Mr. Charles Bradley, as per his request, is hereby removed from the Planning Board.

BE IT STILL FURTHER RESOLVED that the following appointments and terms of office are hereby confirmed.

EXPIRATION
DATE

1. Chairman of Tribal Council--Joe Bradley----3-17-75
   (Community Club Council)
2. Community Services----------Bill Ledford---3-18-75
3. Qualla Housing--------------June Maldonado-3-18-76
4. Chamber of Commerce---------Jim Cooper-----3-18-77
5. Recreation (CAP)------------Arnold Wachacha-3-18-77
6. Lands Committee-------------Dan McCoy------3-18-78
7. Businessman at Large--------Bertha Saunooke-3-18-78
8. Executive Committee---------John Crowe-----3-18-79
9. Cherokee Development Corp.--Frell Owle-----3-18-79

BE IT FINALLY RESOLVED that the Tribal Planning Board is authorized to carry out the intent of this Resolution.

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